

Department of Human Resources

Division of Public Health

Office of Emergency Medical Services/Trauma

# Emergency Pre-Hospital Protocols



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## GENERAL INFORMATION

### OVERVIEW

#### Purpose

The purpose of this document is to provide 1) medical protocols regarding permissible and appropriate emergency medical services procedures which may be rendered by medics to a patient not in a hospital, and 2) communication protocols regarding which medical situations require direct voice communication between medics and a physician (or a nurse, or a paramedic, or a physician's assistant who is in direct communication with a physician) prior to those medics rendering specified emergency medical services procedures to a patient not in a hospital.

#### Authority

The authority for implementing these protocols is found in O.C.G.A. 31-11-60.1(b) and (c), 31-11-50(b), and the Rules of the Department of Human Resources Public Health Chapter 290-5-30. These protocols have been reviewed and approved by the Georgia Emergency Medical Services Medical Directors Advisory Council and J. Patrick O'Neal, M.D. for the Department of Human Resources, Division of Public Health, Office of Emergency Medical Services/Trauma.

It is the responsibility of each medic to be familiar with the laws, rules and regulations and procedures and adhere to them. Even an order by a physician does not justify procedures not in accordance with laws and rules and regulations.

#### Professional Judgment

Since each medical emergency must be dealt with on an individual basis and appropriate care determined accordingly, professional judgment is mandatory in determining treatment modalities within the parameters of these protocols.

#### Control of Patient Care at the Scene

Control of patient care at the scene of an emergency shall be the responsibility of the individual in attendance most appropriately trained and knowledgeable in providing pre-hospital emergency stabilization and transport. When an ambulance arrives at the scene of a medical emergency, and contact is made with medical control by a medic, a physician/patient relationship is established between the patient and the physician providing medical control. The physician is responsible for the management of the patient and the medic acts as an agent of medical control unless a patient's physician is present.

When a physician other than the patient's physician on the scene of a medical emergency properly identifies himself and demonstrates his willingness to assume responsibility for patient management and documents his intervention by signing the emergency pre-hospital care report, the medic should place the intervening physician in communication with medical control. If there is disagreement between the intervening physician and the medical control physician, or if the intervening physician refuses to speak with medical control, the medic should continue to take orders from the medical control physician.

Reference: DHR Public Health Rule 290-5-30-.05(8)(i) Control of patient care at the scene.

## **ABBREVIATIONS and DEFINITIONS**

ABG	Arterial blood gases
AED	Automated External Defibrillator
AHA	American Heart Association
ALS	Advanced Life Support, includes Paramedic and Cardiac Technician licensed procedures
ARC	American Red Cross
SAMPLE	Symptoms, Allergies, Medications, Past medical history, Last meal or ingestion, Events leading up to
AVPU	Response level: Alert, to verbal, to painful stimuli only, unresponsive
BLS	All other certified procedures
BSA	Body Surface Area
cm	centimeters
COPD	Chronic Obstructive Pulmonary Disease
CRT	Capillary refill time
Cyanosis	Bluish discoloration of skin
D <sub>5</sub> W	5% Dextrose in water
D <sub>50</sub> W	50% Dextrose in water
BVM	Bag valve mask
Dyspnea	Difficulty breathing
ECG	Electrocardiogram
ECG/EKG quick look	Using paddles to identify rhythm
ECG/EKG monitoring	Using electrodes to identify rhythm with continuous readout
ED	Emergency Department
ET	Endotracheal
ETA	Estimated Time of Arrival
GCS	Glasgow coma scale
GM	Gram
HX	History
IV	Intravenous
KG	Kilogram
KVO	Keep vein open
L	Liter
LMA	Laryngeal Mask Airway
LOC	Level of consciousness
LPM	Liters per minute
LR	Lactated Ringers
MC	Medical Control
mEq	Milliequivalent
mg	Milligram
ml	Milliliter
MOI	Mechanism of injury
NPO	Nothing by mouth
NRBM	Non-rebreathing mask
NOI	Nature of illness
NS	Normal saline
NTG	Nitroglycerin
PE	Physical examination
PERRL	Pupils equal round and reactive to light
PPE	Personal Protective Equipment
PPV	Positive pressure ventilation
PRN	As needed or necessary
PSVT	Paroxysmal Supraventricular Tachycardia
PTLA	Pharyngeal tracheal lumen airway
PVC's	Premature Ventricular Contractions
Pulse Ox	Pulse Oximetry

## **ABBREVIATIONS and DEFINITIONS**

RTS.....	<i>Revised trauma score</i>
Rapid Transport.....	<i>Immediate transport with care rendered en-route</i>
STAT.....	<i>Immediately</i>
Story Match.....	<i>Described scenario doesn't coincide with injury or physical findings</i>
Stridor.....	<i>Harsh-high pitched inspiratory sound indicating possible (or probable) upper airway obstruction</i>
Sublingual.....	<i>Under tongue</i>
Subq.....	<i>Subcutaneous (beneath skin)</i>
ug.....	<i>Microgram</i>

## EMERGENCY DRUG KIT

DRUG DESCRIPTION	UNITS
ADENOSINE 3 mg/ml 2 ml vial	(5)
ALBUTEROL (PROVENTIL) NEB SALINE 3 ml	(3)
AMIODARONE	
ATROPINE 1 mg/ 10 ml syringe	(6)
CALCIUM CHLORIDE 1 GM/10 ml vial	(2)
DEXAMETHASONE 4 mg/ml 5 ml vial	(1)
DEXTROSE 50 % syringe (25 GM/50 ml)	(2)
DIPHENHYDRAMINE 50 mg/1 ml syringe	(1)
DIAZEPAM 10 mg/2 ml syringe	(2)
DOPAMINE 400 mg/5 ml vial	(1)
EPINEPHRINE 1 mg/1 ml ampule (1:1000)	(2)
EPINEPHRINE 1 mg/10 ml syringe (1:10,000)	(6)
FUROSEMIDE 40 mg/4 ml syringe	(2)
GLUCAGON 1 mg/1 ml syringe	(1)
LIDOCAINE 100 mg/5 ml syringe	(3)
LIDOCAINE 2 GM 500 ml premixed bag	(1)
LORAZEPAM	
MAGNESIUM SULFATE 5 GM/10 ml vial	(1)
MIDAZOLAM	
MORPHINE 10 mg/ml vial	(1)
NALOXONE 2 mg/2 ml ampule	(2)
NITROGLYCERINE 0.4 mg. Tablet 100 count bottle	(1)
PROCAINAMIDE 1 GM/10 ml vial	(1)
PROMETHAZINE 25 mg/1 ml ampule	(2)
SODIUM BICARBONATE 50 mEq/50 ml syringe	(2)
STERILE WATER for INJECTION 50 ml vial	(1)
THIAMINE 100 mg/1 ml vial	(1)
*TORADOL (Ketorolac) 60 mg/2 ml TUBEX syringe	(1)
VERAPAMIL	
 BRASELOW TAPE	 (1)

**\* Caution in aspirin allergic patient**

**Note: This is a sample drug list. Yours will be modified according to your needs and your medical director's approval. This message will not appear on the final version of your protocol.**

## LIGHTS & SIREN

No emergency response is so urgent that we cannot respond in a safe manner so as to protect the lives of the public and ourselves. To do otherwise could compound an already urgent situation and result in additional emergency patients. The safety of individuals proceeding to the scene as well as the public through which they are traveling is of high priority.

The driver of any authorized emergency vehicle shall not be relieved from the duty to drive with due regard for the safety of all persons, nor shall it protect the driver from the consequences of his reckless disregard for the safety of others.

### **THE LAW**

#### **UNIFORM RULES OF THE ROAD**

##### *40-6-6. Authorized emergency vehicles.*

*(a) The driver of an authorized emergency vehicle, when responding to an emergency call, or when in the pursuit of an actual or suspected violator of the law, or when responding to but not upon returning from a fire alarm, may exercise the privileges set forth in this Code section.*

*(b) The driver of an authorized emergency vehicle may:*

- (1) Park or stand, irrespective of the provisions of this chapter;*
- (2) Proceed past a red or stop signal or stop sign, but only after slowing down as may be necessary for safe operation;*
- (3) Exceed the maximum speed limits so long as he does not endanger life or property;*
- (4) Disregard regulations governing direction of movement or turning in specified directions.*

*(c) The exceptions granted by this Code section to an authorized emergency vehicle shall apply only when such vehicle is making use of an audible signal and use of a flashing or revolving red light visible under normal atmospheric conditions from a distance of 500 feet to the front of such vehicle, except that a vehicle belonging to a federal, state, or local law enforcement agency and operated as such shall be making use of a flashing or revolving blue light with the same visibility to the front of the vehicle.*

*(d) The foregoing provisions shall not relieve the driver of an authorized emergency vehicle from the duty to drive with due regard for the safety of all persons.*

# LIGHTS & SIREN

## DEFINITIONS

**"Hot" Response** - This type of response includes use of the ambulances warning lights and siren.

**"Cold" Response** - This type of response, while it may be deemed to be an emergency response, does not dictate the use of lights and siren by the ambulance service personnel. During a "cold" response the ambulance will be operated in compliance with the "Rules of the Road" and all traffic laws will be obeyed.

**Emergency or Emergent** - any circumstance calling for immediate action in which medical attention is indicated. 290-5-30-.02 (bb) Rules and Regulations for Ambulance Services.

Note: An emergency may require a "hot" or "cold" response.

**Non-Emergency** - means any circumstances in which a delayed action is appropriate and in which transport to a medical facility is indicated.

Note: Always requires a "cold" response.

## GUIDING PRINCIPLES

The driver of the ambulance should be advised by the attending medic, as outlined by ambulance protocol, whether it is necessary to respond under "hot" conditions. If a question arises concerning the transport of any patient, medical control **shall** be contacted.

The driver should be advised by the attending medic if the patient's condition changes while in transport, and the method of operating as an authorized emergency vehicle can be altered as appropriate.

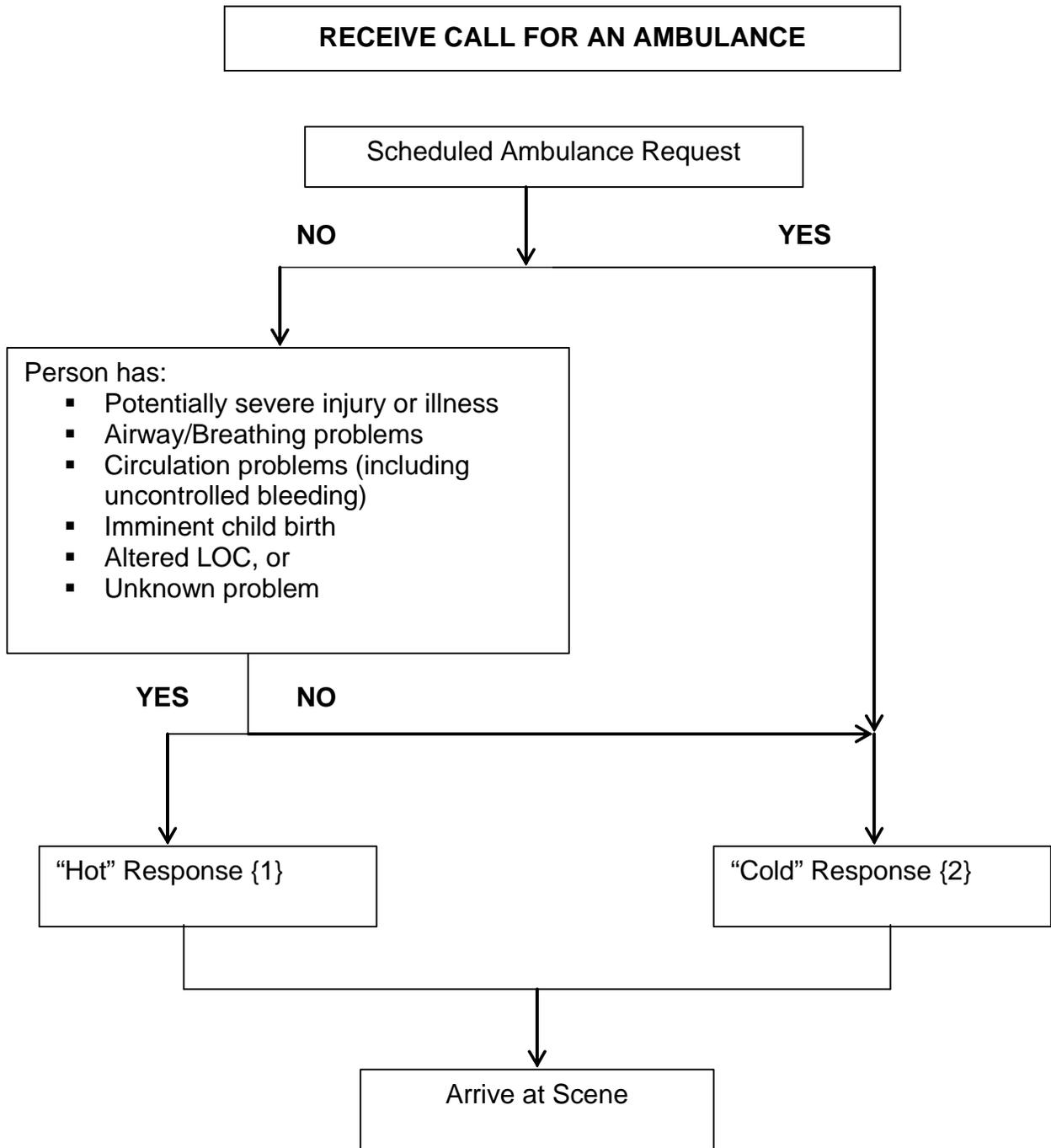
When operating a vehicle as "an authorized emergency vehicle", both the warning lights and audible signal must be in use. Operating a vehicle with only one of these warning devices in use does not satisfy the requirements of OCGA 40-6-6.

There are certain medical conditions that may require the rapid transport of the patient, but without the use of an audible warning device due to the patient's condition (i.e. acute MI, pre-eclampsia, etc.). In circumstances where lights only are used for transport, the driver should be advised that the vehicle **can not** proceed as "an authorized emergency vehicle" under the conditions set forth in OCGA 40-6-6. **The operator of the ambulance using lights only without the use of an audible warning device must proceed in complete compliance with the "Rules of the Road".**

Despite the existence of an emergency situation, there are times when it may be more appropriate to approach a scene or transport the patient to a medical facility silently or "cold". Similarly, there may be environmental conditions (i.e. traffic, weather, etc.) in which operating as an emergency vehicle or "hot" introduces unreasonable risk and/or disruption and provides minimal opportunity to arrive at the scene early. In any case, remember ambulance charges and third party payment rates do not correspond directly with the use of warning lights and siren.

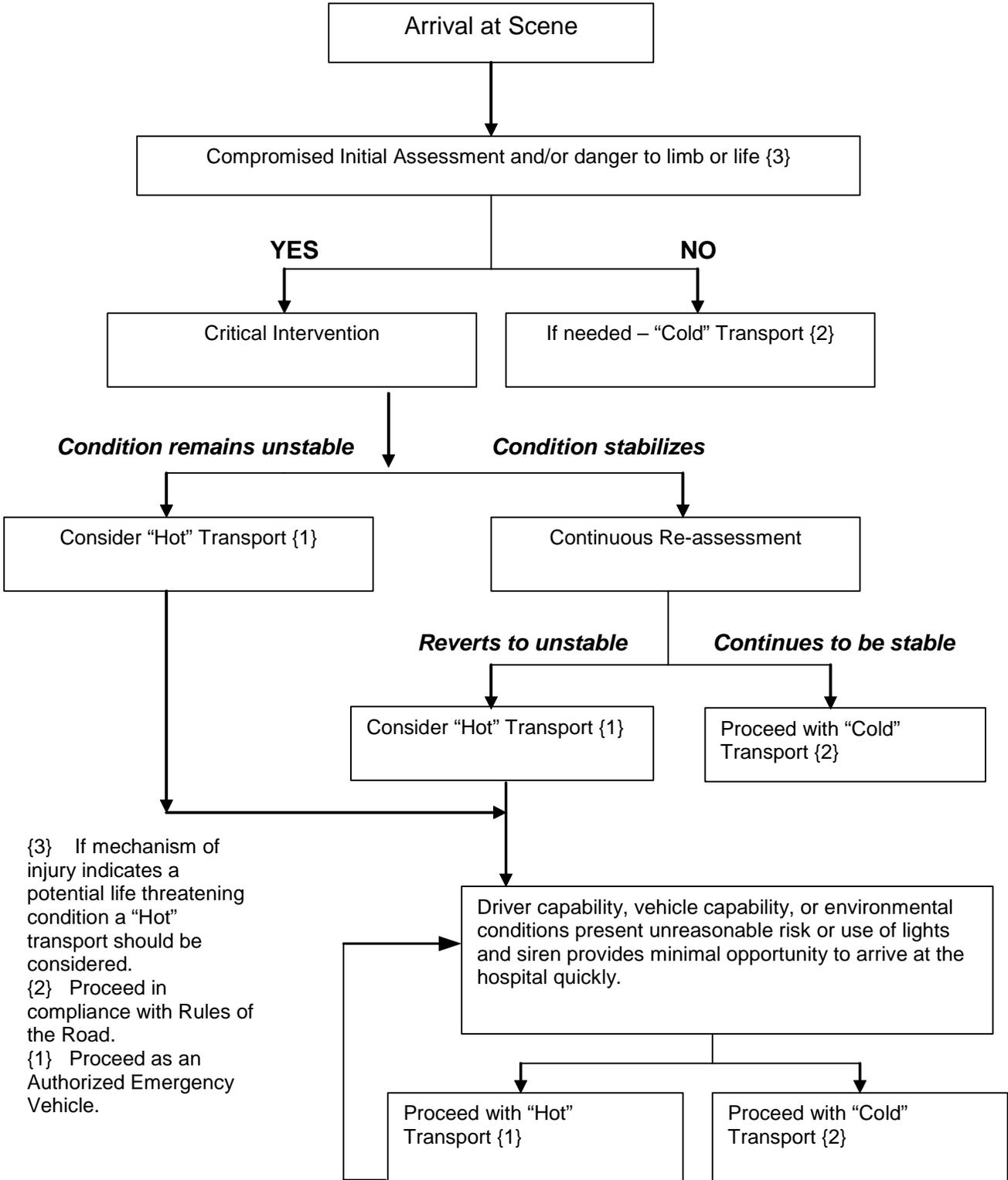
When transporting a patient, either "hot" or "cold", the driver of the ambulance should be especially aware of the physical danger inherent and the operation of an emergency vehicle, and drive in a manner to minimize turbulence to passengers resulting from quick and/or sudden stops, acceleration, and turning movements.

Realizing all contingency cannot be considered and a hard and fast rule established, the practice of returning to a station or quarters "hot" for any reason other than an emergency is discouraged. Proper use of backup personnel and vehicles and the use of common sense should all but eliminate returning to station "hot".



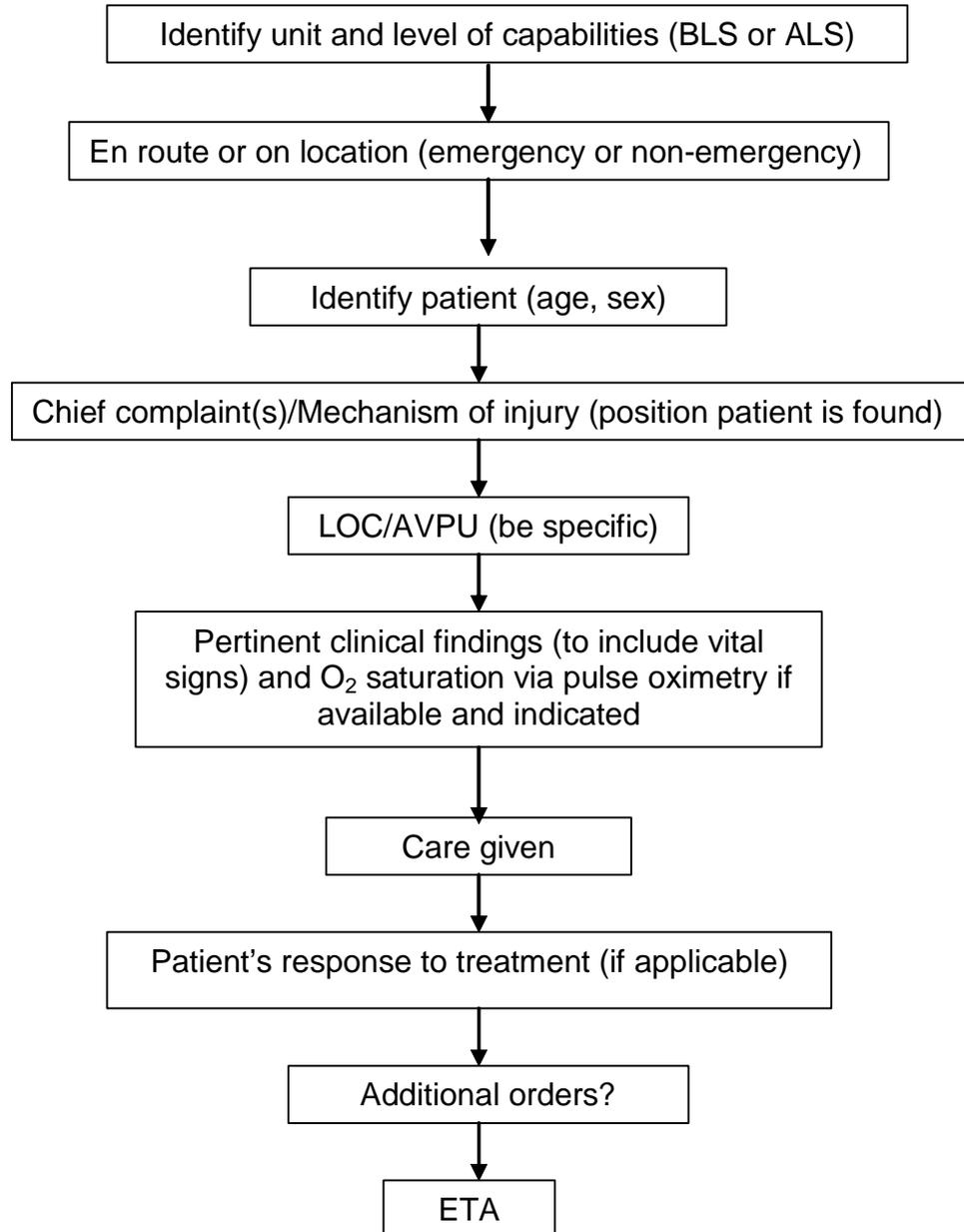
- {1}** *Proceed as an authorized emergency vehicle*  
**{2}** *Proceed in compliance with Rules of the Road  
 (Additional information en route to the patient will require re-assessment of run status)*

# POST PATIENT ASSESSMENT



## COMMUNICATIONS

### CONTACT WITH MEDICAL CONTROL



Patient's reports should be brief, concise, and to the point. They should only contain information that is pertinent to the chief complaint. Although signals and codes are used with individual services familiar with them, they should not be used in communicating with the hospital receiving facility.

This model demonstrates the manner in which patient's reports should be communicated to the receiving facility.

## PATIENT REFUSES TREATMENT

We recognize that patient refusals represent a difficult, almost impossible, medical – legal paradox. An appropriate policy must allow refusal of treatment by obviously lucid and rational individuals. However, we must be vigilant for those individuals who are incapacitated by means of substance abuse (i.e., drugs, and/or alcohol), medical condition (i.e., hypoglycemia), or trauma (i.e., head injury).

We recognize that, if a patient refuses and therefore is not given an appropriate screening evaluation/examination, it may be impossible to uncover incapacitation in seemingly “normal” appearing persons. This leaves open the possibility that a person needing treatment will refuse treatment.

The purpose of this policy is to provide a baseline for the EMS agency and its evaluators that recognizes the delicate balance between individual’s rights and appropriate EMS response.

Adult patients who are in full command of their mental faculties have the right to refuse treatment even when the refusal is imprudent by accepted medical standards. This only applies to patients who are mentally competent and capable of deciding for themselves. This is not the case with the patient who is neurologically depressed, mentally unstable (either chronically or acutely), or is gravely disabled, which means that he/she is unable to provide for the basic needs of life.

In situations of a mentally competent adult refusal, the following steps should be taken:

1. Explain in comprehensible terms the need for treatment and the consequences to the patient of declining treatment, (i.e., you may die; you may never walk again, etc.). Explain to the patient what treatment is to be done per protocol (such as Oxygen, IV’s, and backboard, etc.). Also, explain to the patient what treatment may be done at the hospital such as x-rays, ECG, blood test and physician evaluation.
2. Sometimes other steps can help in getting a patient’s acceptance of treatment:
  - A. Removing a patient from the public or embarrassing scene.
  - B. Involving family members or friends as needed or requesting that the patient be allowed to respond to questions privately.
3. If the patient still declines care, meticulously document what you advised the patient (i.e., you may die, you may never walk again, etc.) and all indications of the patient’s alertness, full orientation and capacity to repeat back the explanation given. Have the patient do this in front of another person, preferably in the presence of a police officer or ambulance crew personnel and document the results of that request and the name of the person who witnessed the event of the refusal.
4. If the patient should deteriorate or lapse into unconsciousness, the pre-hospital provider may render any treatment deemed appropriate.

Note: Whenever possible contact medical control for cases in which patient refuses treatment/transport.

## DESTINATION OF PREHOSPITAL PATIENTS

The patient shall be transported by the ambulance service to the hospital of his/her choice providing that the hospital chosen is within reasonable distance of the patient's location and is capable of meeting the patient's immediate needs. The ambulance service medical director has established reasonable distances for rendition of prehospital emergency care for \_\_\_\_\_ EMS. (See below) In the event of exigent circumstances on-line medical control may override the established reasonable distances.

If the patient's choice of hospital is not within a reasonable distance, medical control will determine the closest hospital capable of meeting the patient's immediate needs.

If the patient's choice of hospital is within a reasonable distance but medical control (or the medic, if the medic is unable to communicate with medical control) determines that 1) the patient's condition is too critical to risk excessive time necessary to reach the hospital chosen and a nearer hospital is capable of meeting the patient's immediate needs, or 2) the hospital chosen is unable to meet the patient's immediate needs, or 3) the hospital chosen by the patient has notified the medic that it is unable to receive the patient, THEN medical control and/or the medic should make a reasonable effort to convince the patient that a hospital other than the one chosen is more capable of meeting the patient's immediate needs. If the patient continues to insist on being transported to the hospital he/she has chosen then the patient shall be transported to that hospital.

If the patient does not, cannot, or will not express a choice of hospitals, the ambulance service shall transport the patient to the nearest hospital believed capable of meeting the patient's immediate medical needs without regard to other factors, (e.g., patient's ability to pay, hospital charges, county or city limits, etc.).

Reference: DHR Public Health Rule 290-5-30-.05(8)(k) Destination of Prehospital Patients.

### **Reasonable Distances for rendition of prehospital emergency care for \_\_\_\_\_ EMS.**

Reasonable distances have been determined based on the patient's medical or:

- (1) Trauma related emergency
- (2) Resources at the local and surrounding facilities
- (3) Geographic location of the various facilities
- (4) Ambulance service resources
- (5) Obligation to provide emergency services in the assigned ambulance zone
- (6) Availability of mutual aid

With due consideration of normal workloads and/or extraordinary circumstances at the time of the request for service (i.e. medics, ambulances, and resources of intended receiving facility).

\_\_\_\_\_ shall be within reasonable distance for rendition of prehospital emergency care.

# FIELD TRAUMA TRIAGE DECISION SCHEME

Measure vital signs and level of consciousness

**Step One**

Glasgow Coma Scale <14 or  
 Systolic blood pressure <90 or  
 Respiratory rate (Adult) <10 or >29    Respiratory rate (Pediatric) [<24 mo >60] [24-36 mo >55] [3-6 yrs >50] [>6 yrs >30]

Yes

No

Take to a trauma center. Steps 1 and 2 attempt to identify the most seriously injured patients. These patients would be transported preferentially to the highest level of care within the trauma system.

Assess anatomy of injury

**Step Two**

- All penetrating injuries to head, neck, torso, and extremities proximal to elbow and knee
- Flail chest
- Two or more proximal long-bone fractures
- Crush, degloved or mangled extremity
- Amputation proximal to wrist and ankle
- Pelvic fractures
- Open or depressed skull fracture
- Paralysis

Yes

No

Take to a trauma center. Steps 1 and 2 attempt to identify the most seriously injured patients. These patients would be transported preferentially to the highest level of care within the trauma system.

Assess mechanism of injury and evidence of high-energy impact

**Step Three**

- Falls
  - Adults: > 20 ft. (one story is equal to 10 ft.)
  - Children: > 10 ft. or 2-3 times the height of the child
- High-risk auto crash
  - Intrusion: > 12 in. occupant site; > 18 in. any site
  - Ejection (partial or complete) from automobile
  - Death in same passenger compartment
  - Vehicle telemetry data consistent with high risk of injury
- Auto v. pedestrian/ bicyclist thrown, run over, or with significant (>20 mph) impact
- Motorcycle crash > 20 mph

Yes

No

Transport to closest appropriate trauma center which, depending on the trauma system, need not be the highest level trauma center.

Assess special patient or system considerations

**Step Four**

- Age
  - Older Adults: Risk of injury death increases after age 55
  - Children: Should be triaged preferentially to pediatric-capable trauma centers
- Anticoagulation and bleeding disorders
- Burns
  - Without other trauma mechanism: Triage to burn facility
  - With trauma mechanism: Triage to trauma center
- Time sensitive extremity injury
- End-stage renal disease requiring dialysis
- Pregnancy > 20 weeks
- EMS provider judgment

Yes

No

Contact medical control and consider transport to trauma center or a specific resource hospital.

Transport according to protocol

When in doubt, transport to a trauma center.

# FIELD TRIAGE SCORING

<b>Glasgow Coma Scale</b>	
	<u>Score</u>
<b>Eye Opening</b>	
spontaneous	4
to voice	3
to pain	2
none	1
<b>Best Verbal Response</b>	
oriented	5
confused	4
inappropriate words	3
incomprehensible	2
none	1
<b>Best Motor Response</b>	
obeys commands	6
localizes pain	5
withdraws to pain	4
abnormal flexion	3
abnormal extension	2
none	1

<b>Pediatric Glasgow Coma Scale</b>				
	<2 year	2-5 year	> 5 years	Score
<b>Eye Opening</b>	Spontaneous	Spontaneous	Spontaneous	4
	To speech	To verbal stimuli	To verbal stimuli	3
	To pain	To pain	To pain	2
	None	None	None	1
<b>Verbal</b>	Coos, babbles	Appropriate words or phrases	Oriented	5
	Irritable, cries	Inappropriate words	Confused	4
	Cries to pain	Cries to Pain	Inappropriate words	3
	Moans to pain	Moans to pain	Incomprehensible sounds	2
	None	None	None	1
<b>Motor</b>	Normal spontaneous movement	Obeys commands	Follows commands	6
	Withdraws to touch	Localizes pain	Localizes pain	5
	Withdraws from pain	Withdraws from pain	Withdraws from pain	4
	Abnormal flexion	Abnormal flexion	Abnormal flexion	3
	Abnormal extension	Abnormal extension	Abnormal extension	2
	None	None	None	1
<b>Head Injury Classification:</b> Severe: 8 or less Moderate: 9 to 12 Mild: 13 to 15 NOTE: GCS does not apply to the post-seizure (postictal) period				

<b>[RTS] Revised Trauma Score</b>	
<b>A. Ventilatory rate</b>	
10-29/min	4
>29/min	3
6-9/min	2
1-5/min	1
0	0
<b>B. Systolic blood pressure</b>	
>89 mm Hg	4
76-89 mm Hg	3
50-75 mm Hg	2
1-49 mm Hg	1
No pulse	0
<b>C. Glasgow Coma Scale score</b>	
13-15	4
9-12	3
6-8	2
4-5	1
<4	0
Trauma score total = A + B + C	

<b>APGAR Scoring</b>			
Sign	0	1	2
<b>Heart rate</b>	Absent	<100	>100
<b>Respirations</b>	Absent	Slow (<40) or irregular	>40
<b>Muscle tone</b>	Limp	Slow flexion	Vigorous
<b>Reflex irritability</b>	None	Grimace	Cough/sneeze
<b>Color</b>	Diffusely pale/blue	Centrally pink	Completely pink

# Pre-hospital Withholding and Withdrawing Resuscitation

## General Comments

1. Emergency medical services provide rapid evaluation and treatment of potentially life-threatening illnesses and injuries in the out of hospital environment. The first obligation is to the patient(s) in distress. The receipt of a 911 call establishes an implied contract to perform a patient assessment and give appropriate treatment.
2. Patient assessment should always occur promptly and without delay. NEVER withhold or put off patient assessment to take time to read a document. Vital moments in a patient's life may be spent in such an effort. In the absence of a valid DNR, requests by family members to withhold assessment and lifesaving treatment should be set aside initially except in the setting of a patient who is obviously dead.
3. EMS personnel are not trained in making legal opinions and should not attempt to decide if DNR orders or living wills are valid or not while on the scene of a patient in distress. Instead, verbal communication from (1) the patient, (2) the immediate family (authorized person), or (3) medical personnel specifically assigned to and familiar with the patient should be used to make decision.
4. CPR can be stopped in the field in the proper settings. (OCGA 31-39-4). Patients experiencing asystole in the field almost always die. Even if they respond initially, almost no studies show survival of any of these patients to hospital discharge.
  - REMEMBER: Patients experiencing hypothermia may present in asystole. Patients must be warm (95°) before they are pronounced dead. The exception is in the obviously dead patient.
  - REMEMBER: Patients NEVER resuscitate beyond the point they were when they arrested. The terminally ill cancer patient will still have terminal cancer when resuscitated.
  - REMEMBER: Patients with chronic terminal illnesses that have been doing well will OFTEN have many more years of quality life when resuscitated.
5. Patients that have died or for whom it is later determined did NOT want intubation (or the individuals who legally may substitute their judgment for them did NOT want intubation) can be extubated in the emergency department. Endotracheal extubation should not be performed in the field.
6. Since each DNR situation must be dealt with on an individual basis and appropriate care and decision-making determined accordingly, professional judgment is mandatory in determining treatment modalities within the parameters of this protocol.
7. Emergency medical providers must always remember the primary goal of this profession: Render aid and comfort to the suffering. The application of this protocol in no way diminishes this responsibility. All patients whether they are dying, are near death, or have some other clinical problem deserve the provider's utmost compassion and concern.

## Withholding of Resuscitation

1. It is proper that resuscitation should not be attempted on certain patients. Any victim meeting one or more of the criteria of "obvious death" should have resuscitative attempts withheld. You must be familiar with the signs of obvious death. A patient who is in rigor mortis, has dependent lividity (pooling of blood due to gravity), has decomposition, or has experienced decapitation or obviously fatal trauma should have resuscitation withheld. If there is EVER any doubt, attempt resuscitation.
2. "Down time", while not a nebulous concept, is fraught with too many variables to permit a specific period of time being used in this protocol to determine whether or not to withhold resuscitation. The medic must exercise professional judgment in determining if "down time", say, 15-minutes in a particular set of circumstances, would clearly indicate withholding resuscitation. If there is any doubt the medic will initiate a resuscitative attempt and proceed to URGENT HISTORY.
3. Living Will - In recognition of the dignity and privacy which patients have a right to expect, the Georgia General Assembly allows a competent adult person to make a written directive, known as a living will, instructing his physician and others to withhold or withdraw life-sustaining procedures in the event of a terminal condition, a persistent coma, or persistent vegetative state. SEE OCGA 31-32. Each medic should be familiar with this statute which includes a sample living will and goes into the execution and revocation of a living will, including the immunity of participants from liability.
  - REMEMBER: If you elect to ignore a living will and resuscitate the patient, you are protected from liability.
  - REMEMBER: If you elect to follow a living will's instructions, you are protected from liability.
4. DNR Order - This is an order in writing by the attending physician using the term "do not resuscitate", "DNR", "order not to resuscitate", "no code", or substantially similar language in the patient's chart. This constitutes a legally sufficient order and authorizes a physician, health care professional, emergency medical technician, cardiac technician, or paramedic to withhold or withdraw cardiopulmonary resuscitation whether or not the patient is receiving treatment from or is a resident of a health care facility. SEE OCGA 31-39. Each medic should be familiar with this statute.

## Urgent History

1. Obtain the urgent history only after the appropriate medical measures have been initiated. The resuscitation measures should not be interrupted while the urgent history is obtained.
2. Determine the most legitimate person present from whom the history should be taken, for example the spouse, next of kin, and so on. This is the "authorized person". Know what durable power of attorney for health care means.
3. Determine the following:
  - a. Is there a terminal illness involved?
  - b. Is there an advance treatment directive such as a living will or DNR order?
  - c. Did the patient express to an authorized person any desires regarding resuscitative measures, e.g. proxy directive through durable power of attorney for health care? If so, what?
4. REMEMBER: Just because a living will exists does NOT mean that the patient wants NO resuscitative effort. Even a terminal cancer patient would likely want to have an airway suctioned, oxygen given, and proper aid and comfort administered.

## Endotracheal Intubation

1. The field patient who is experiencing an arrest state should be evaluated where possible to determine if the patient may or may not have wanted to be intubated. This should not delay the medic's efforts to do so if, in the judgment of the medic, that intubation is the proper course to follow.
2. The unresponsive field patient in asystole, PEA, or in ventricular fibrillation or unstable tachycardia refractory to initial care needs to be intubated. If the patient's family or authorized medical agent states that they and/or the patient did not wish to have endotracheal intubation even for a short period, this wish should be followed. When in doubt, intubate. The tube can always be removed in the emergency department.

## Medical Control

**Medical Control** Generally speaking medical control should always be contacted prior to withholding or withdrawing resuscitative efforts.

# PREHOSPITAL WITHHOLDING and WITHDRAWING RESUSCITATION

## DEATH SCENE

The Cardiac Arrest Protocol is to be initiated on all patients except under the following situations:

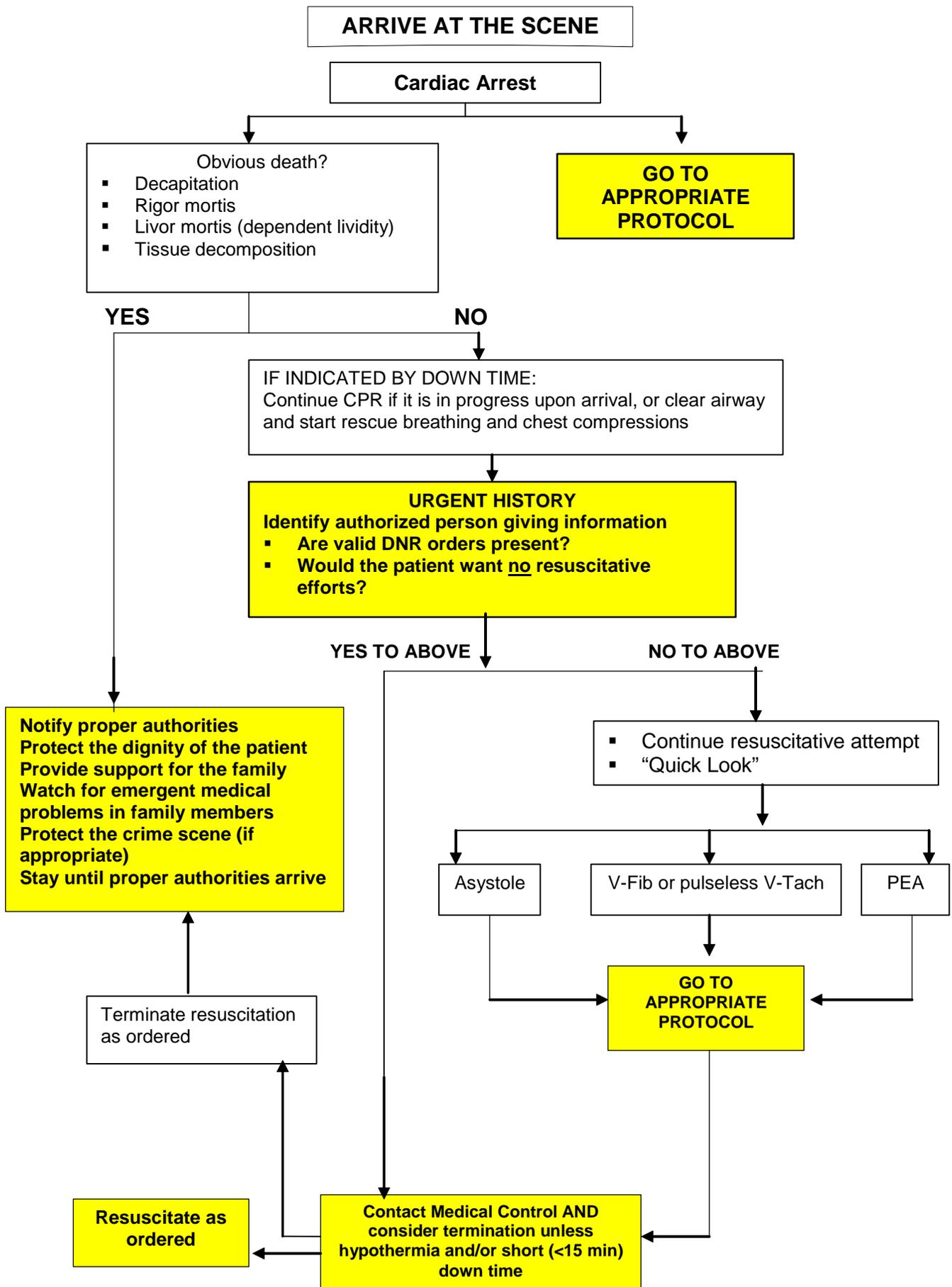
1. The patient is displaying obvious and accepted signs of irreversible death such as rigor mortis, dependent lividity, decapitation, decomposition, or incineration.
2. Blunt trauma victims who have no respirations, no pulse, show asystole confirmed in 2 leads on the cardiac monitor and have obvious signs of trauma.
3. A Georgia Licensed Physician, Medical Examiner, Coroner or other person legally authorized in Georgia to pronounce death.
4. The physician (patient's physician, medical director, or Emergency Room physician) states to at least two (2) EMS personnel, (Paramedics and/or EMTs), that resuscitation is not to be attempted on this patient and the physician agrees to accept responsibility for pronouncing the patient dead.
5. The patient's family has a "Do Not Resuscitate" Order present on the scene that has been signed by a Licensed Physician.

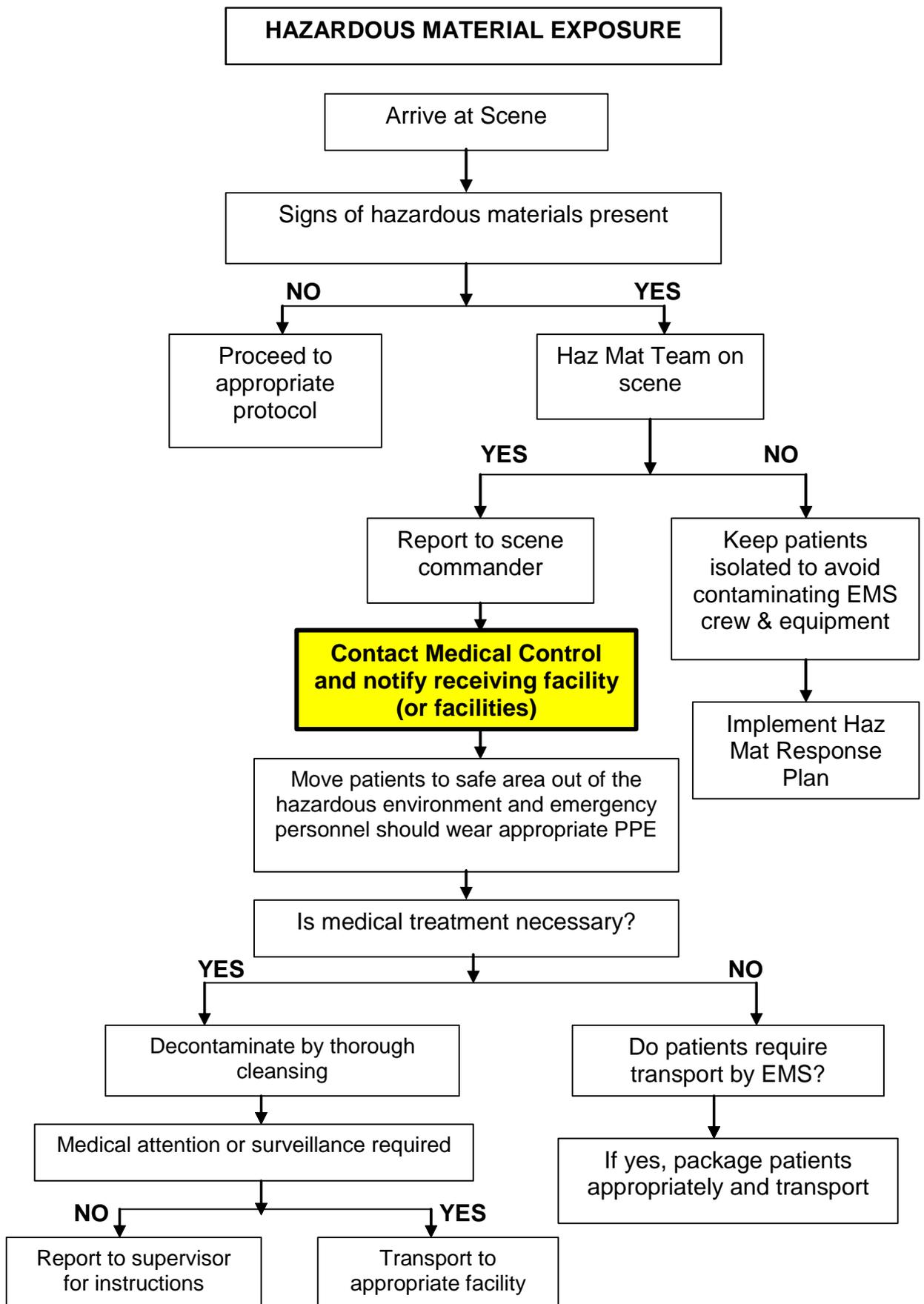
The Paramedic's/EMT's responsibility is to the patient.

1. Neither the family nor Law Enforcement Officers have the right to refuse resuscitation attempts for the patient.
2. The Paramedic/EMT is responsible for the medical judgment as to whether a patient is obviously dead or dismembered.
3. Document absence of vital signs and attach the EKG strip to the EMS record.

In possible crime cases, do not remove or cut clothing, remove penetrating objects, or cut through penetrating holes in clothing unless absolutely necessary for patient evaluation/care.

If the Paramedic/EMT has any doubt as to how to handle a situation, notify medical control and give an assessment of the situation.





**HAZARDOUS MATERIAL EXPOSURE**

**HAZARDOUS MATERIAL RESPONSE FOR EMS UNITS ARRIVING ON SCENE  
ARRIVAL AT SCENE**

- Insure scene safety
- Check wind direction and weather
- Check lay of land

**SIGNS OF HAZARDOUS MATERIALS PRESENT**

**YES**

- Look for placard
- Consult DOT guidebook
- Notify fire department
- Notify HAZMAT team
- Report to scene commander
- Identify chemicals if possible
- Determine number of patients
- Notify medical control
- Wear PPE
- Keep patients isolated in a safe area

**NO**

- Implement chemical detection protocol
- Determine if chemicals are involved
- Determine if chemicals pose threat

**HAZMAT TEAM ON SCENE**

**YES**

- Report to scene commander
- Contact medical control
- Notify receiving facility
- Wear PPE
- Move patients to safe area

**NO**

Keep patient(s) in safe area to avoid contaminating EMS crew and equipment

**IS MEDICAL TREATMENT NECESSARY**

**YES**

- Wear PPE
- Move patient(s) to safe area
- Decontaminate patient(s)
- Triage patient(s) according to protocol
- Treat patient(s) according to protocol
- Notify receiving facility
- Package patient(s) for transport
- Notify medical control

**NO**

**Notify medical control**

## HANDLING OF PATIENT'S PERSONAL PROPERTY

### GENERAL STATEMENT

A medic's first responsibility is to treat the patient. Handling a patient's valuables or personal property is secondary to proper pre-hospital emergency care. However, special attention needs to be paid to how a patient's personal property is handled by the medic (when handling it cannot be avoided) to minimize potential problems for the medic and the EMS later on. In "load-and-go" situations, do not waste time handling patient's valuables.

In Georgia case law *Bricks v. Metro Ambulance Service, Inc.*, et.al. 70517,177 Ga. App. 62 (1985) the court ruled that an ambulance service is a common carrier under Georgia law and therefore it owes duty to passengers not only to protect their lives and persons from insult and injury but to also protect their personal effects from loss. The common carrier (ambulance service) is liable for willful and wanton acts of its own servants in its employment, so proper handling of a patient's valuables is very important.

Proper procedure under this protocol is determined by location of the patient (at home, accident scene, etc.), whether family members or friends of the patient are present, whether law enforcement personnel are present and several other factors. **Every situation cannot be described here, but the following is to serve as a guideline.**

Patient's personal property could include but not be limited to: glasses, dentures, wallets, money, watches, jewelry, expensive clothing, medications, and keys.

### PATIENT AT HOME OR A RESIDENCE

Advise and encourage the patient to leave all unnecessary personal items and valuables at home or with a family member or friend.

A patient's medication in most cases would need to go to the hospital either with the patient or be carried by a family member. If it is necessary for the medic to handle these medications they should be treated like any other patient valuables.

Do not remove a watch, jewelry, or wallet from a patient unless it is necessary to treat the patient, e.g., start an I.V.

If it is necessary to do so tell the patient you are removing the item. Then try to give it to the patient if conscious and alert or to a family member if present and document this on the ambulance trip report. If possible have another medic or law enforcement officer witness what you did with the patient's personal property.

If the patient insists on taking personal items with him, the patient must be alert enough to keep possession of the items.

If you are uncomfortable about the security of the premises you are leaving, notify law enforcement.

### PATIENT AT ACCIDENT SCENE OR NOT AT HOME

If the patient is conscious encourage the patient to give personal property and valuables to a responsible person of his choice. If you have to remove any item from the patient (e.g., watch, jewelry, etc.) to treat the patient, return the items to the patient, and if possible, have someone witness this and document it on the trip report.

If law enforcement presents you with a patient's personal items, request that they (law enforcement) present the items to the patient (if conscious and alert) or to the patient's family, or present them to the hospital staff.

If personal items or valuables are handled by first responders or bystanders before they were presented to you, document this on the trip report.

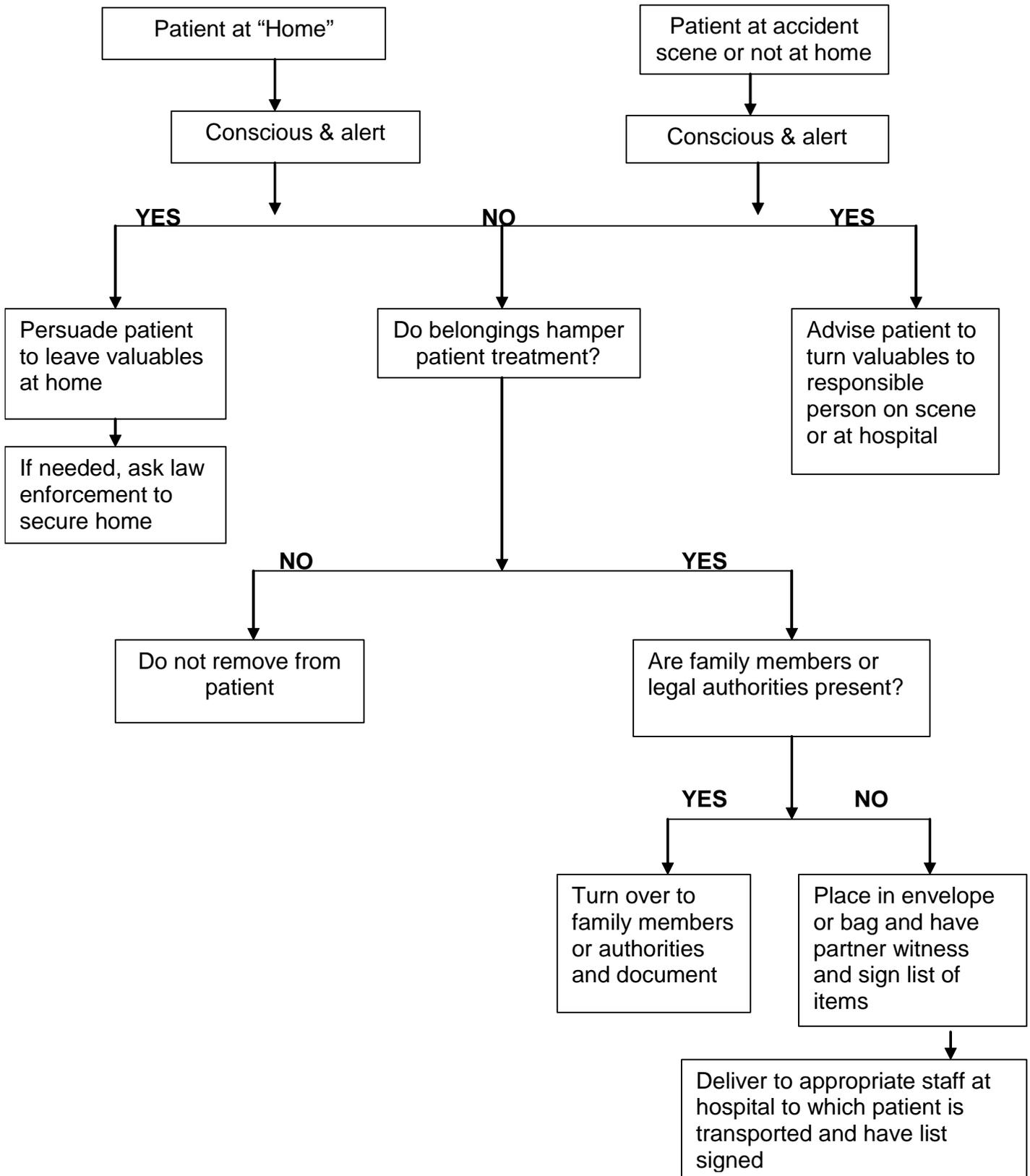
If personal items or valuables are destroyed in order to gain access to the patient, this should be documented and the items kept.

If patient is disoriented or unconscious give the patient's personal items to a family member or law enforcement officer if possible. Document any incident involving valuables on the trip report and obtain signature from the person receiving valuables. If family or law enforcement are unavailable, transport valuables with patient.

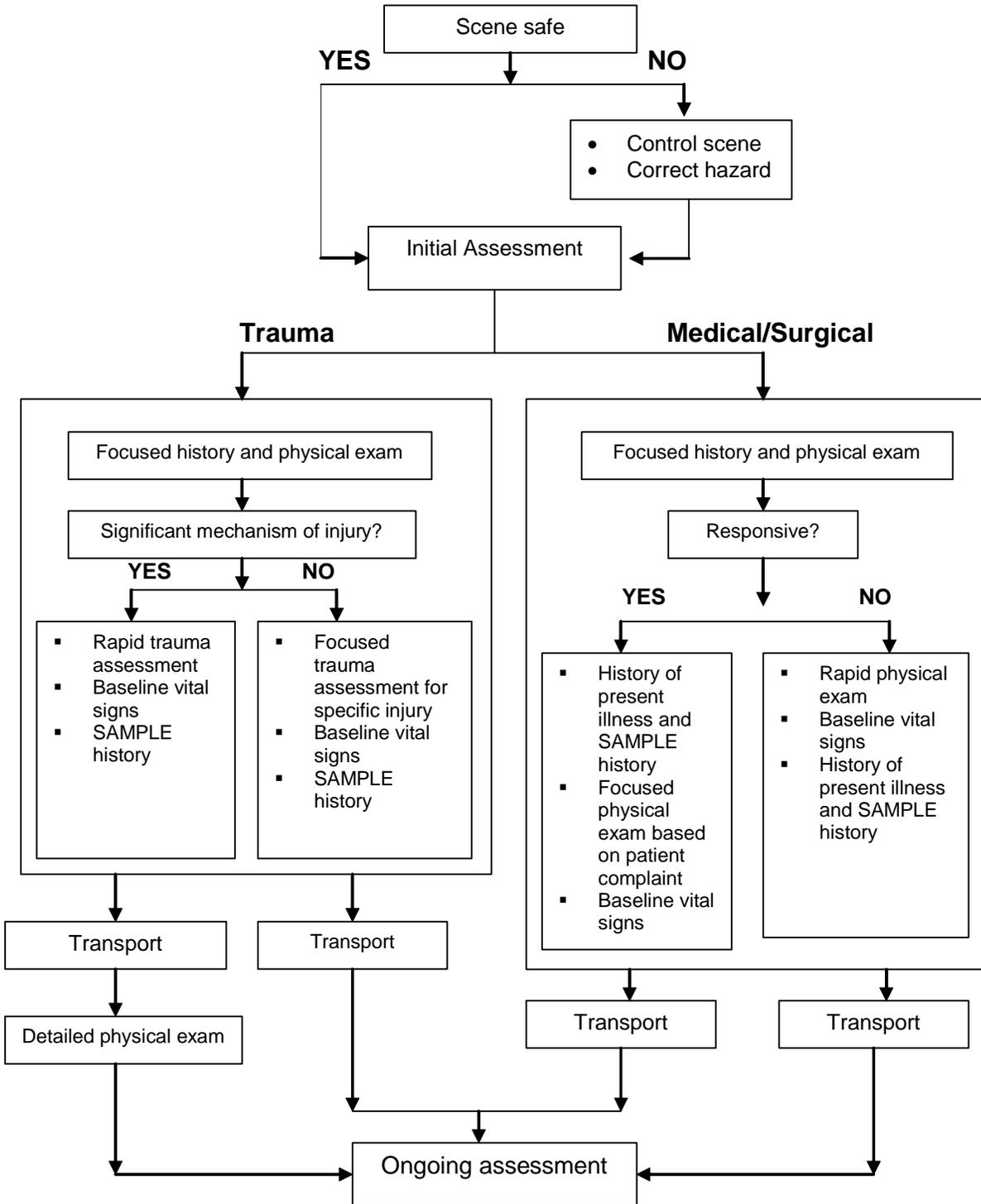
### TAKING CHARGE OF PATIENT'S PERSONAL ITEMS

When the medic finds himself in possession of a patient's personal items and valuables, he/she should carefully document what he/she did with the items. Place the items in a container provided for that purpose – zip lock bags for small items and plastic garbage bags for larger items. Make a list of the items placed in each bag and place the list on the bag or in the bag. Medications should be listed separately. Currency should be listed by amount. Have your partner or law enforcement officer verify (sign) the list of items included in the bag. When you arrive at the hospital, turn the bag(s) over to the appropriate hospital staff (depending on hospital protocol) and have them sign for the items. Retain a copy of this signed list to be attached to the EMS copy of the trip report.

# HANDLING PATIENT'S PERSONAL PROPERTY



# PATIENT ASSESSMENT



## ALTERED LEVEL OF CONSCIOUSNESS (LOC)

### Unknown Cause

- Appropriate airway management and O<sub>2</sub> therapy with appropriate C-spine control
- Pulse Ox
- Finger stick glucose test
- Cardiac monitor
- Appropriate IV therapy

**Contact Medical Control/orders may include the following:**

- Narcan 2.0 mg titrated to patient's respirations
- D50<sub>w</sub> 25-50 GM if hypoglycemic blood glucose < \_\_\_\_\_\*
- Thiamine 100 mg IV (for suspected malnourished patient)

### Known Cause

Refer to appropriate protocol tab:

- Cardiac
- Stroke
- Diabetic Management
- Drugs
- Hypoxia
- Seizures
- Trauma
- Labor - Eclampsia

\* Medical Director to determine this value

**AIRWAY - BREATHING**

Compromised Airway

Spinal Injury Suspected

YES

NO

Modified Jaw Thrust

Head Tilt-Chin Lift

Breathing

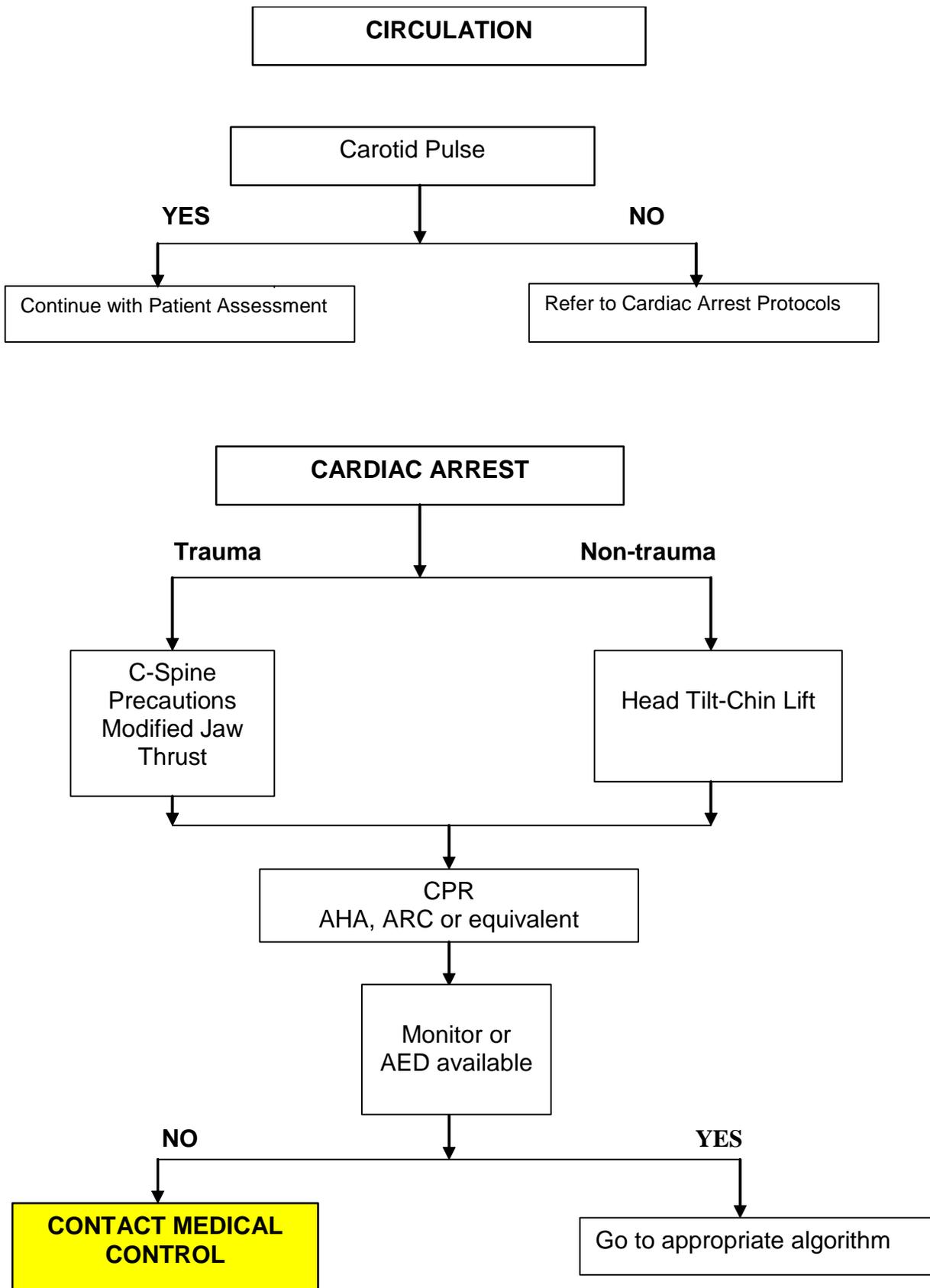
YES

NO

- Pulse Ox
  - Identify: Dyspnea, cyanosis, stridor, etc
  - Evaluate: Ventilatory status
    - Adequate: O<sub>2</sub> 8 to 12 lpm by NRBM/assist PRN – proceed to next step
    - Inadequate: Assist with O<sub>2</sub>; BVM, pocket mask to mouth
  - Evaluate: Inspect chest wall, auscultate.
  - Cardiac monitor
  - Assess patient's response to intervention
- If assessment shows specific cause, go to Respiratory Distress Protocol

- Foreign body airway obstruction maneuvers:
  - If appropriate: oropharyngeal airway, LMA, Combitube/PTLA, OR ET tube
  - Confirm proper placement of airway adjunct
  - Pulse Ox
  - Cardiac monitor
  - Assess patients response to intervention
- If the use of endotracheal intubation is chosen, one brief attempt should be made and if unsuccessful, move to a non-visualization airway device of appropriate size.*

**CONTACT MEDICAL CONTROL**



## CHEST PAIN – SUSPECTED MI

### CARDIAC

### NON-CARDIAC

- Pulse Ox
- Initial Assessment/Resuscitation
- Assure Airway, O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN
- Cardiac monitor
- Detailed Assessment , History: SAMPLE, PE  
Vital signs (to include pulse rate, rhythm and quality) q 5 minutes. Neck, chest, heart, abdomen, skin, extremities, back
- IV NS KVO
- Administer aspirin per protocol

**CONTACT MEDICAL CONTROL/orders may include the following:**

- † NTG – (1/150 GM or spray) x q 5 min PRN x 3
- Assessment for thrombolytic therapy
- Anti-dysrhythmics (see appropriate dysrhythmia protocol)
- Morphine 2 to 10 mg slow IV titrated to pain relief

Transport in position of comfort

**Refer to specific protocol**

## SUSPECTED MI

- Pulse Ox
- Oxygen
- Cardiac Monitor
- IV NS KVO or INT
- Vital signs
- Administer aspirin per protocol
- Initiate STEMI protocol, if available

**CONTACT MEDICAL CONTROL/orders may include the following:**

- † NTG – (1/150 GM or spray) x q 5 min PRN x 3
- Pain relief with narcotics
- Expeditious transport to emergency department
- Prehospital screening for *thrombolytic* therapy\*
- 12-lead ECG, analysis, transmission to emergency department \*
- Initiation of *thrombolytic* therapy\*

\*When available capability

† Be sure that the patient has not taken any/all erectile dysfunction drugs prior to administering Nitroglycerin or other vasodilatory agent and that all vital signs are adequate.

## AUTOMATED EXTERNAL DEFIBRILLATOR

Begin with 2 minutes of CPR before defibrillation

Analyze and defibrillate as indicated -  
Follow AED Instructions

Continuous CPR until signs of life

Arrival of ALS provider, follow  
ACLS provider instructions and  
transport

# BRADYCARDIA

- Assess ABC's
- Secure airway
- Pulse Ox
- Administer oxygen
- Start IV NS KVO
- Attach monitor
- Assess VS
- Review Hx
- Perform PE

Bradycardia  
<60 beats/minute

- Serious signs or symptoms
- Altered LOC
- Decompensating hypotension
- Absent radial pulses

YES

NO

Type II second-degree AV heart block? Or third-degree AV heart block?

Observe and Transport

**CONTACT MEDICAL CONTROL/orders may include the following:**

Intervention sequence

- Atropine 0.5 mg IV, may repeat to a total dose of 3 mg
- Transcutaneous pacing TCP, if available
- Dopamine 5-20 ug/kg per min
- Epinephrine 2-10 ug per min

## FREQUENT PVC'S OR MULTIFOCAL PVC'S

- Initial assessment
- Pulse Ox
- Assure airway/O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN. Check pulse rate, rhythm and quality. (Assessment – slow/normal/fast rate: irregular rhythm; changing quality)
- Check pulse (rate/rhythm/quality) and level of consciousness (A.V.P.U.) q5 minutes. ECG/EKG quick look and connect to monitor
- IV NS KVO

**CONTACT MEDICAL CONTROL/orders may include the following:**

- Lidocaine initial bolus 1-1.5 mg/kg IV. Repeat ½ initial bolus q5 to 10 minutes PRN until maximum dose of 3 mg/kg given
- Lidocaine drip of 2 – 4 mg/minute (Premixed drip or one 2 GM ampule in 500 ml D<sub>5</sub>W equals 4 mg/ml) starts at 30 microdrops/minute, titrate to effect within the stated dose range

# PAROXYSMAL SUPRAVENTRICULAR TACHYCARDIA (PSVT)

- Assess ABCs
- Secure airway
- Pulse Ox
- Administer oxygen
- Start IV
- Attach monitor
- Assess vital signs
- Review history
- Perform physical examination

**UNSTABLE**

**STABLE**

**Altered LOC**

**HR>180  
Severe  
HYPO-B/P**

**Decompensated  
HYPO B/P**

**HR>180  
Conscious and Alert x 3**

Atrial fibrillation  
Atrial flutter

**CONTACT MEDICAL CONTROL**

Paroxysmal  
Supraventricular tachycardia (PSVT)  
Narrow Complex

**CONTACT MEDICAL CONTROL/orders may include the following:**

Perform Synchronized Cardioversion

Vagal maneuvers

- Diltiazem
- B-Blockers
- Verapamil
- Digoxin
- Procainamide
- Quinidine
- Anticoagulants

**CONTACT MEDICAL CONTROL/orders may include the following:**

•Adenosine 6 mg. Rapid IV push over 1-3 seconds

•Adenosine 12mg. Rapid IV push over 1-3 seconds (may repeat once in 1-2 min)

Blood Pressure?

**Normal or elevated**

**Low or unstable**

•Verapamil 2.5 – 5 mg IV

Q 15-30 min •Verapamil 5-10 mg IV

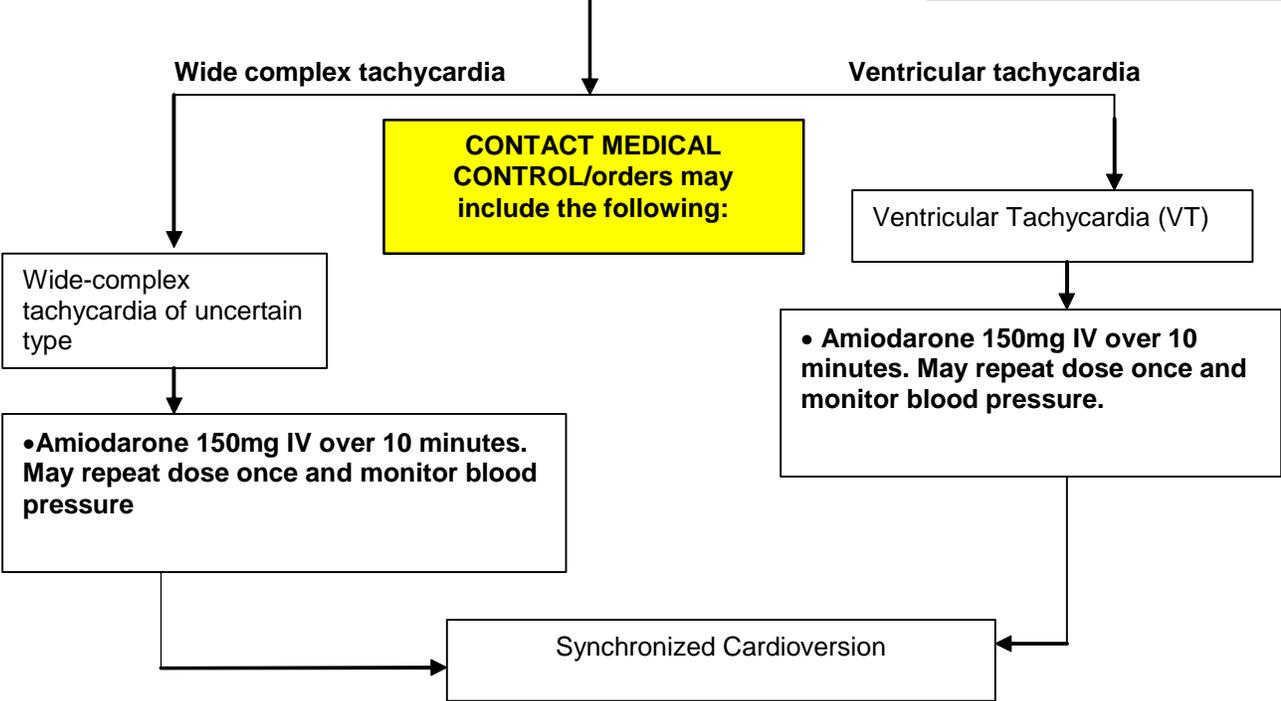
Consider  
\* Digoxin  
\* B-Blockers  
\* Diltiazem

Perform Synchronized Cardioversion

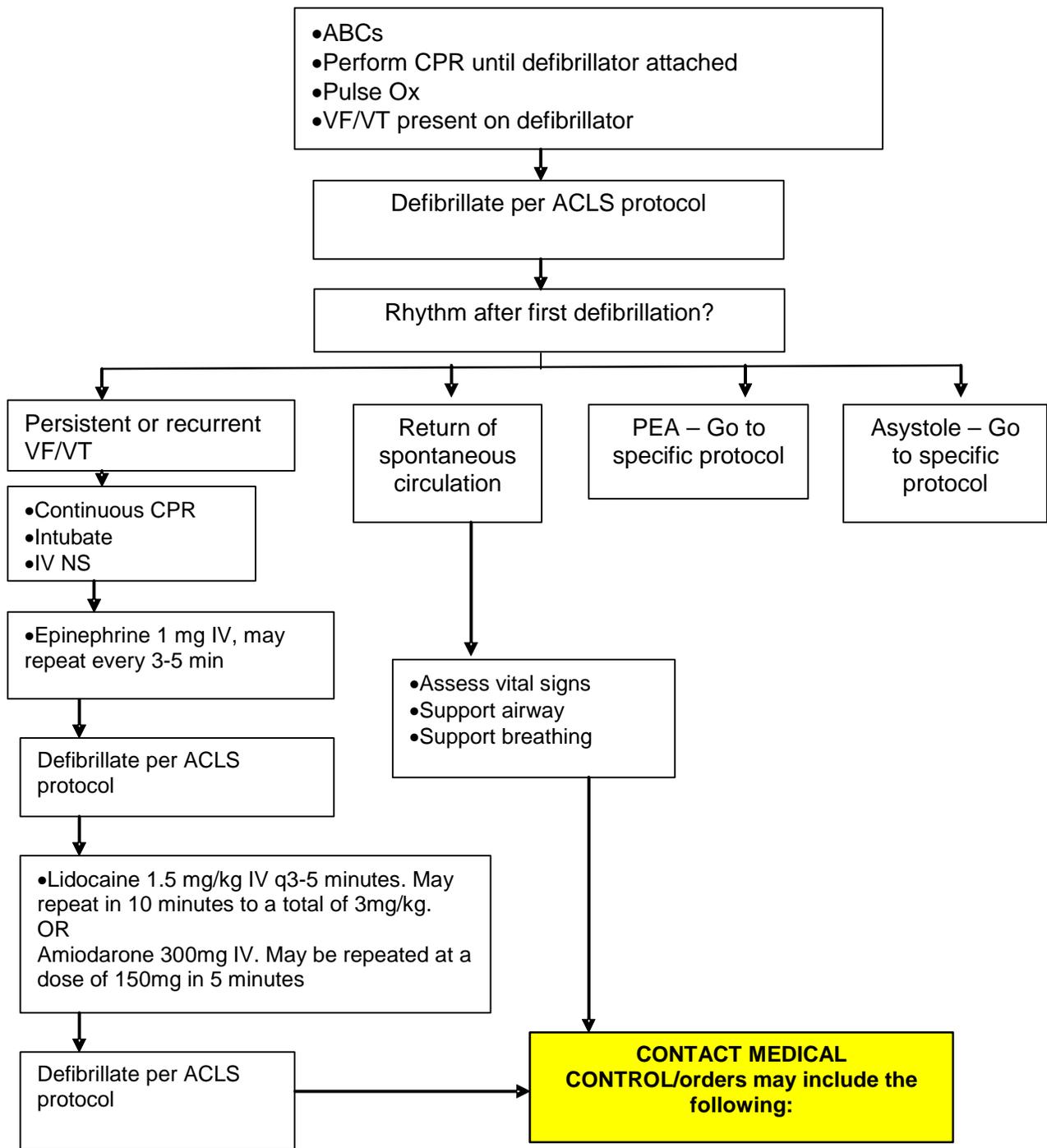
# VENTRICULAR TACHYCARDIA

- Assess ABCs
  - Secure airway
  - Administer oxygen
  - Start IV
  - Attach monitor, pulse ox, and automatic sphygmomanometer\*
  - Assess vital signs
  - Review history
  - Perform physical examination
  - 12-lead ECG\*
- \*Available capability

- If ventricular rate > 150 beats/min. and the patient presents as unstable with diminished LOC:
- Prepare for immediate cardioversion
  - May give brief trial of medications based on arrhythmia
  - Immediate cardioversion is seldom needed for heart rates < 150 beats/min



**VENTRICULAR FIBRILLATION – WIDE QRS COMPLEX TACHYCARDIA  
WITHOUT PULSE  
(VENTRICULAR TACHYCARDIA)**



- Administer medications of probable benefit in persistent or recurrent VF/VT
- Magnesium sulfate 1-2 GM IV
- Procainamide 30mg/min (max. 17 mg/kg)
- Consider Sodium Bicarbonate

Provide medications appropriate for blood pressure, heart rate, and rhythm

**ASYSTOLE**

- Continuous CPR
- Intubate
- Pulse Ox
- IV NS
- Confirm asystole in more than one lead

- Consider possible causes
- Hypoxia
  - Hyperkalemia
  - Hypokalemia
  - Pre-existing acidosis
  - Drug overdose
  - Hypothermia

**CONTACT MEDICAL CONTROL/orders may include the following:**

Consider immediate transcutaneous pacing (TCP)

• **Epinephrine** 1 mg IV, may repeat every 3-5 minutes

• **Atropine** 1 mg IV, repeat every 3-5 minutes up to a total of 3 doses

Consider termination of efforts

**PULSELESS ELECTRICAL ACTIVITY**

- PEA includes:
- Idioventricular rhythms
  - Ventricular escape rhythms
  - Bradysystolic rhythms
  - Postdefibrillation idioventricular rhythms

- Continuous CPR
- IV NS
- Intubate
- Pulse Ox

- Consider possible causes  
(Parenthesis=possible therapies and treatments)
- Hypovolemia (volume infusion)
  - Hypoxia (ventilation)
  - Cardiac tamponade (pericardiocentesis)
  - Tension pneumothorax (needle decompression)
  - Hypothermia (see hypothermia algorithm)
  - Massive coronary and pulmonary embolism (*thrombolytics\**)
  - Drug overdose such as tricyclics, digitalis, *B-Blockers*, calcium channel blockers
  - Hypo/Hyperkalemia
  - Acidosis
  - Massive acute myocardial infarction
- \*Available capability

**CONTACT MEDICAL CONTROL/orders may include the following:**

• **Epinephrine** 1 mg IV push, repeat every 3-5 minutes

• If bradycardia (60 or less beats/min), give *atropine* 1 mg IV  
• Repeat every 3-5 min up to a total of 3 doses

## RESPIRATORY DISTRESS (NON-TRAUMA)

- Initial Assessment
  - Pulse Ox
  - Assure airway; O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN except known COPD, then start 2-6 lpm via nasal cannula and increase as required; be prepared to ventilate
- Detailed assessment
- If patient is coughing, must have mask on when coming to ED. Consider active TB

### Pulmonary Edema

- Reassure and calm patient
- Assist patient to a semi-sitting or sitting position
- Provide a high concentration of O<sub>2</sub> if patient is hypoxic
- Attach cardiac monitor
- IV NS KVO rate
- CPAP by protocol

**CONTACT MEDICAL CONTROL/orders may include the following:**

- Bronchodilators as per Medical Control
- Lasix 40 mg IV
- NTG 0.4 mg sublingual

### COPD

- Reassure and calm patient
- Allow patient to assume position of comfort and loosen restrictive garments  
Keep patient warm
- O<sub>2</sub> via nasal cannula at 2-6 lpm
- Encourage patient to cough
- Cardiac monitor
- IV NS KVO rate

**CONTACT MEDICAL CONTROL/orders may include the following:**

- Bronchodilators as per Medical Control

### Asthma

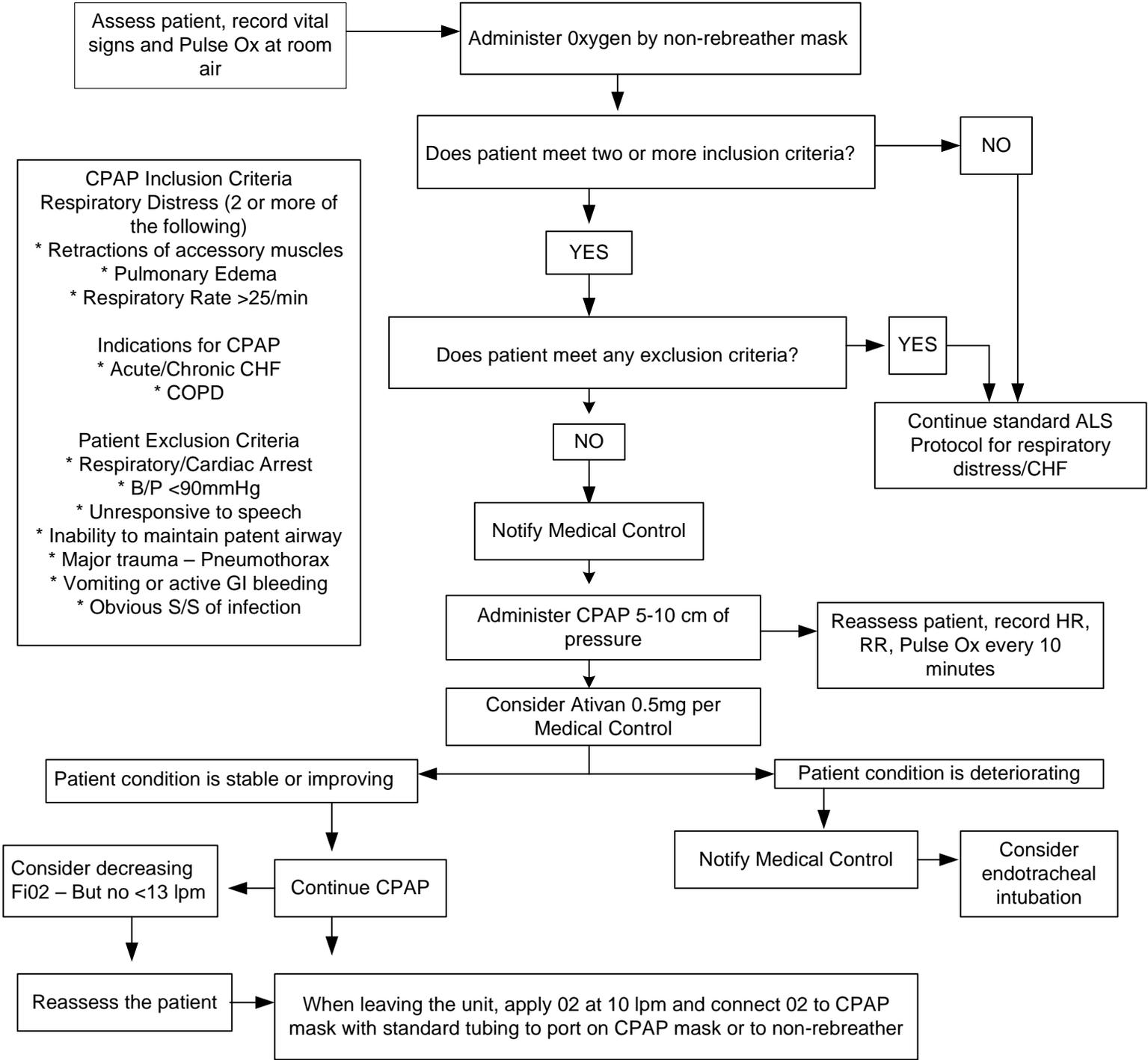
- Reassure and calm patient
- Allow patient to assume position of comfort
- Assist patient in taking their own asthma medications
- Provide humidified O<sub>2</sub> (if possible)
- Cardiac monitor
- IV NS KVO rate

**CONTACT MEDICAL CONTROL/orders may include the following:**

- Bronchodilators as per Medical Control
- Epinephrine 1:1000  
0.3-0.5 ml Subq.

Inadequate ventilatory efforts, ET tube with supplemental high flow O<sub>2</sub>; assist PRN

# CPAP Protocol Flow Sheet



**CPAP Inclusion Criteria**  
 Respiratory Distress (2 or more of the following)  
 \* Retractions of accessory muscles  
 \* Pulmonary Edema  
 \* Respiratory Rate >25/min

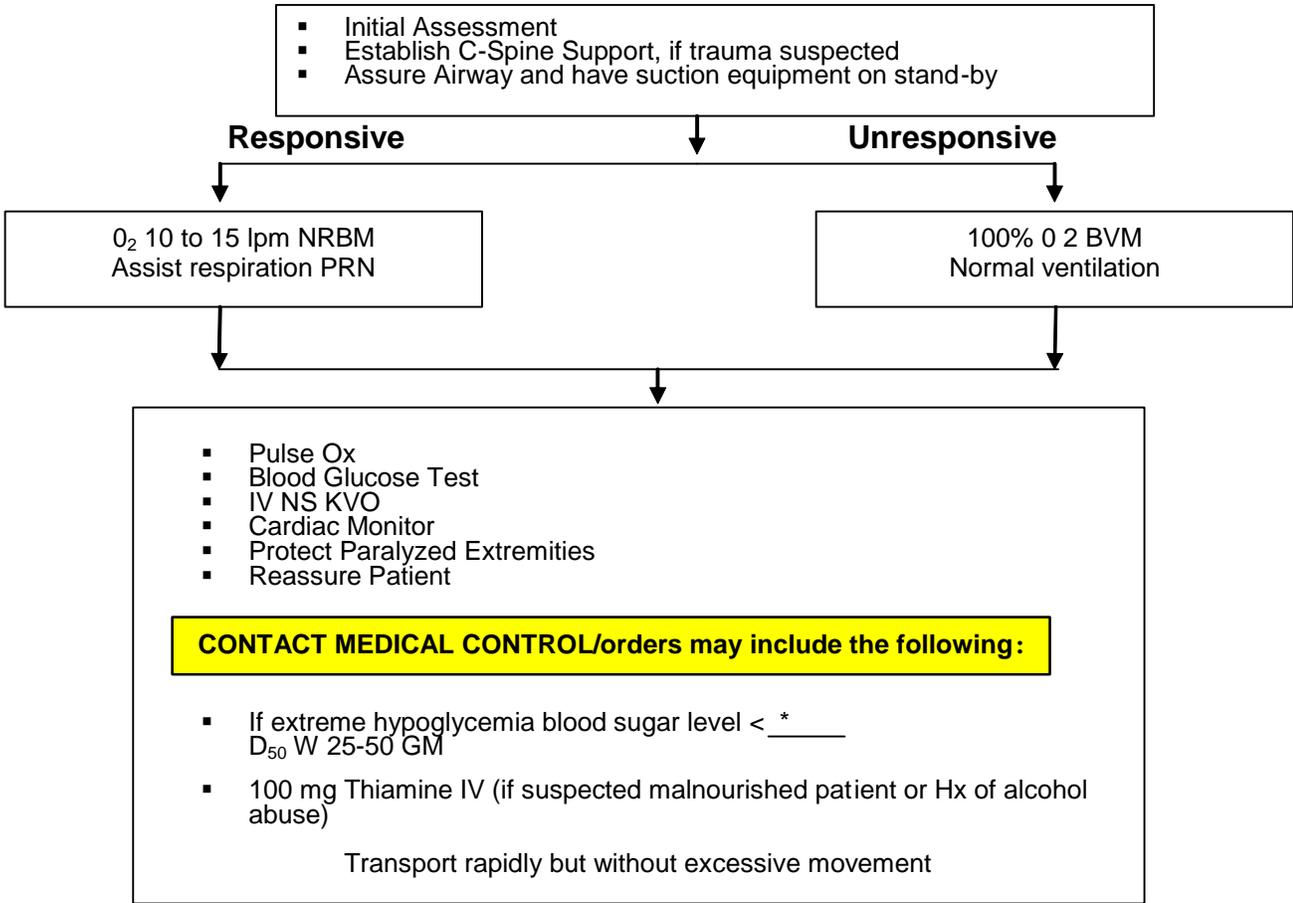
**Indications for CPAP**  
 \* Acute/Chronic CHF  
 \* COPD

**Patient Exclusion Criteria**  
 \* Respiratory/Cardiac Arrest  
 \* B/P <90mmHg  
 \* Unresponsive to speech  
 \* Inability to maintain patent airway  
 \* Major trauma – Pneumothorax  
 \* Vomiting or active GI bleeding  
 \* Obvious S/S of infection

# ACUTE HYPERTENSIVE CRISIS

- Initial Assessment
    - Pulse Ox
    - Assure airway; O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN
  - Detailed Assessment
    - Monitor vital signs (to include pulse rate, rhythm, and quality) and A.V.P.U. q 5 minutes
  - ECG quick look and connect to monitor
  - IV NS KVO
  - Reassurance
- CONTACT MEDICAL CONTROL/orders may include the following:**
- Morphine 5 mg. IV push slowly over 1-2 minutes; NTG 1/150 sublingual;
  - Rapid transport

# STROKE



\* Medical Director to determine Glucose level.  
 † Be sure that the patient hasn't taken any/all erectile dysfunction drugs prior to administering Nitroglycerin or any other vasodilatory agent and that all vital signs are adequate.

# SEIZURES

## Active

YES

- Initial Assessment
  - Pulse Ox
  - Assure airway; O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN
- Protect from injury
- Check LOC by A.V.P.U.; pupils by P.E.R.R.L.
- Fingertstick glucose, draw blood samples
- IV NS at KVO rate

**CONTACT MEDICAL CONTROL prior to detailed survey/ orders may include the following:**

- D<sub>50</sub>W 25-50 GM; 100 mg. Thiamine IV if fingerstick shows hypoglycemia; blood sugar < \* \_\_\_\_\_
- Valium 2.5-5 mg. IV slowly over 1-2 minutes. Titrated to resolve seizure activity
- Ativan 0.5-2 mg IV
- Versed 0.15mg/kg (max 7mg) IV, IM, Nasal

NO

- Initial Assessment/Resuscitation
  - Pulse Ox
  - Assure airway; O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN (Watch for emesis)
- Check LOC by A.V.P.U.; pupils by P.E.R.R.L.
- Detailed Assessment
- Fingertstick glucose, draw blood samples
- IV NS at KVO rate

**CONTACT MEDICAL CONTROL/orders may include the following:**

- 100 mg Thiamine if suspected malnourished patient or Hx of alcohol abuse
- D<sub>50</sub>W 25-50 GM, if fingerstick shows hypoglycemia; blood sugar < \* \_\_\_\_\_

\*Medical Director to determine glucose level

## DIABETIC MANAGEMENT

### Hypoglycemia

- Initial Assessment/Resuscitation
  - Pulse Ox
  - Assure airway; O<sub>2</sub> 10 to 15 lpm by NRBM, assist PRN
- Detailed assessment
- Fingerstick glucose
- Patient conscious – sugar PO
- Patient unconscious: IV NS at KVO rate *draw blood samples*
- Cardiac Monitor

**CONTACT MEDICAL CONTROL/orders may include the following:**

- 100 mg. Thiamine IV for suspected malnourished patient or Hx of alcohol abuse
- D<sub>50</sub>W 25-50 GM if blood sugar < \_\_\_\_\_\*
- Glucagon 1-2 mg IM if IV access cannot be achieved (and/or) patient is combative

### Hyperglycemia

- Initial Assessment
  - Pulse Ox
  - Assure airway; O<sub>2</sub> 10 to 15 lpm by NRBM, assist PRN
- Detailed assessment
- Fingerstick glucose
- IV NS at 200 cc/hr
- Cardiac monitor

**CONTACT MEDICAL CONTROL**

\*Medical Director to determine glucose level

**ABDOMINAL DISTRESS  
(NON-TRAUMA)**

- Initial Assessment
  - Pulse Ox
  - Assure airway, O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN
  - Manage shock appropriately
- Detailed Assessment
  - Consider cause: GI/GU, cardiac, aneurysm, GYN/pregnancy, insect bite/sting, poisoning/overdose, other
- Save/note significant emesis/other drainage
- IV NS
  - *Draw blood samples*
- Cardiac monitor
- Keep patient NPO

**CONTACT MEDICAL CONTROL**

## DEHYDRATION

- Initial Assessment
  - Pulse Ox
  - Assist airway O<sub>2</sub> 10 to 15 lpm NRBM/assist PRN
  - Manage shock appropriately
- Detailed assessment

### CONTACT MEDICAL CONTROL

- IV NS at rate determined by Medical Control
  - Draw blood samples

# OB GYN/LABOR

- Initial Assessment
  - Pulse Ox (for both if possible)
  - Assure airway ;O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN
  - Blow by O<sub>2</sub> for baby
- Detailed Assessment
  - Determine: Frequency of contractions, rupture of membranes. PE: Crowning, presenting part
  - Hx. S.A.M.P.L.E., (complications present or past pregnancy, due date, number of pregnancies, number of deliveries, multi-gestations, physician)
- Cardiac monitor

**Imminent Birth**

**Non-Imminent Birth**

**CONTACT MEDICAL CONTROL**

Transport

**Normal Delivery**

**Breech**

**Heavy Bleeding**

**Presenting Part**

- Control head, then body until delivery completed, keep head below level of body; check for presence of cord around neck and gently remove as indicated
- Suction baby's airway, mouth first, then nostrils as soon as head delivers
- Assess baby's APGAR score and record time of birth, keep baby warm
- Double cross-clamp umbilical cord approximately 3 inches from infant – divide between clamps
- Allow placenta to deliver spontaneously. DO NOT PULL CORD. Save all tissue. Do not wait in field for placenta to deliver
- Massage fundus (top of uterus) to control bleeding
- IV NS KVO

**CONTACT MEDICAL CONTROL**

- Monitor mother's vital signs

**Reference APGAR score p 1-8a**

- Allow infant to deliver to waist while supporting body
- Flex body to allow head to deliver
- If head does not deliver in 3 minutes, insert gloved hand to create an airway
- Suction with bulb syringe PRN

STAT Transport

**CONTACT MEDICAL CONTROL**

- Heavy bleeding shock
- IV NS shock volume 14 - 16 gauge x 2 at wide-open rate

STAT Transport

**CONTACT MEDICAL CONTROL**

- Position mother on back with head below level of pelvis; coach (pant, don't bear down)
- Use gloved hand with gentle firm pressure on baby

**CONTACT MEDICAL CONTROL/ orders may include the following**

Consider sedation

STAT Transport

**These procedures should be done en route**

## VAGINAL BLEEDING

- Initial Assessment/Resuscitation:
  - Pulse Ox
  - Assure airway; O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN
  - Manage shock appropriately
- Detailed Assessment
  - Consider cause: Pregnancy/spontaneous abortion, trauma, abnormal menstrual flow
  - Hx: S.A.M.P.L.E.
  - PE: Skin, cardiac, abdomen, Gyn
- IV NS 2 large bore IV's if shock is present
- Cardiac monitor

**CONTACT MEDICAL CONTROL**

## PRE-ECLAMPSIA (TOXEMIA)

- Initial Assessment/Resuscitation:
  - Pulse Ox
  - Assure airway; O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN
- Protect patient from injury
- Detailed Assessment
  - History: S.A.M.P.L.E. (pre-eclampsia, seizure activity)
  - PE: Skin, pulmonary, cardiac, neurological
- Monitor vital signs q 5 minutes
- Keep patient calm and quiet; anticipate seizures
- Cardiac monitor
- IV NS

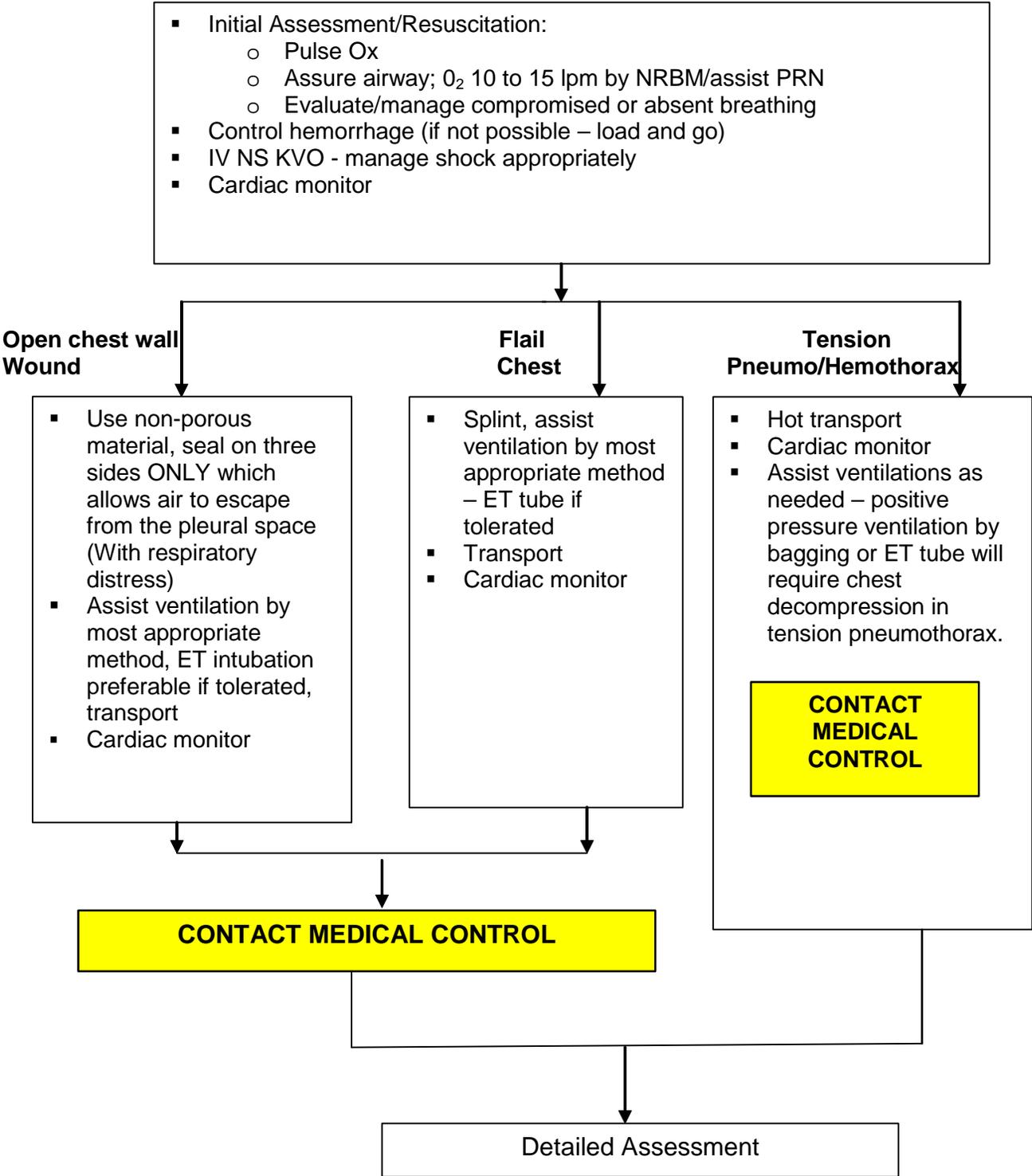
**CONTACT MEDICAL CONTROL/orders may include the following:**

- Magnesium Sulfate 2-4 GM of 10% solution IV slowly
- Valium 5 mg, IV slowly over 1-2 minutes
- Ativan 0.5-2 mg IV for seizures

Expedient transport (as gently as possible; no flashing lights, no siren – may precipitate seizures)

# CHEST TRAUMA

Unstable trauma patients: follow unstable trauma guidelines first, then refer to specific treatment protocols



## TRAUMATIC SHOCK

On scene time should not exceed 10 minutes, unless necessary for extrication

- Appropriate airway management with Pulse Ox and O<sub>2</sub> therapy with C-spine immobilization
- Control blood loss and immobilize to long backboard. (If on scene time limit will not be exceeded, apply appropriate splints)
- Advise receiving hospital of patient status and treatment, GCS, RTS immediately, according to Communication Protocol; Request additional orders if necessary
- While en route, establish 2 large bore IV's. For patients in shock administer NS or LR rapidly. Transportation will not be delayed to allow for IV's, but if scene time is delayed for some other reason such as entrapment, IV's should be started on scene
- Blood may be drawn (if time permits)

**CONTACT MEDICAL CONTROL/additional orders may be requested or ordered**

Special Note:

- CRT is usually a reliable, general indicator of shock (may be affected by body and weather temperature)
  - Pulse location is usually a good indicator of blood pressure
  - Present radials – 90 systolic
  - Present carotids – 60 systolic
  - Cold IV fluids should be warmed if possible
- Isolated head trauma patients do not require large volumes of IV fluid.
- Head injury patients intubated in the field have a high mortality rate. Intubate only if absolutely necessary.

**On all trauma patients, report GCS/RTS (p-1-8a) to receiving hospital**

## TRAUMA

**Unstable Trauma Patients: Follow Unstable Trauma Guidelines first, then refer to specific treatment protocols**

### HEAD

- Initial Assessment/Resuscitation Spinal precautions\*
  - Pulse Ox
  - Assure airway; O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN
  - Establishment of effective ventilation is imperative
  - Adjuncts/BVM
  - ET tube if absolutely indicated
- Manage shock appropriately
- Detailed Assessment
- C-collar
- Fingerstick glucose
- IV NS at KVO
  - Draw blood samples
- Cardiac monitor

**CONTACT MEDICAL CONTROL**

- Transport to closest appropriate hospital

### ABDOMINAL

- Initial Assessment/Resuscitation
  - Pulse Ox
  - Assure airway; O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN
- Manage shock appropriately
- Detailed Assessment
- Cover open wounds – LR soaked dressings
- Assess for pelvic injury and stabilize
- Spinal immobilization PRN
- IV NS
- Cardiac monitor
- Transport to closest appropriate hospital

**CONTACT MEDICAL CONTROL**

### EXTREMITY

- Initial Assessment/Resuscitation
  - Pulse Ox
  - Assure airway; O<sub>2</sub> 8 to 12 lpm by NRBM/assist PRN
- Manage shock appropriately
- Detailed Assessment
- Splint fractures as extremity lies; check distal neuro/vascular status
- Open fractures – dry dressing
- Amputation – dressing, see “Amputated Parts”
- Assess for pelvic injury and stabilize
- IV LR or NS
- Cardiac Monitor

**CONTACT MEDICAL CONTROL/orders may include the following:**

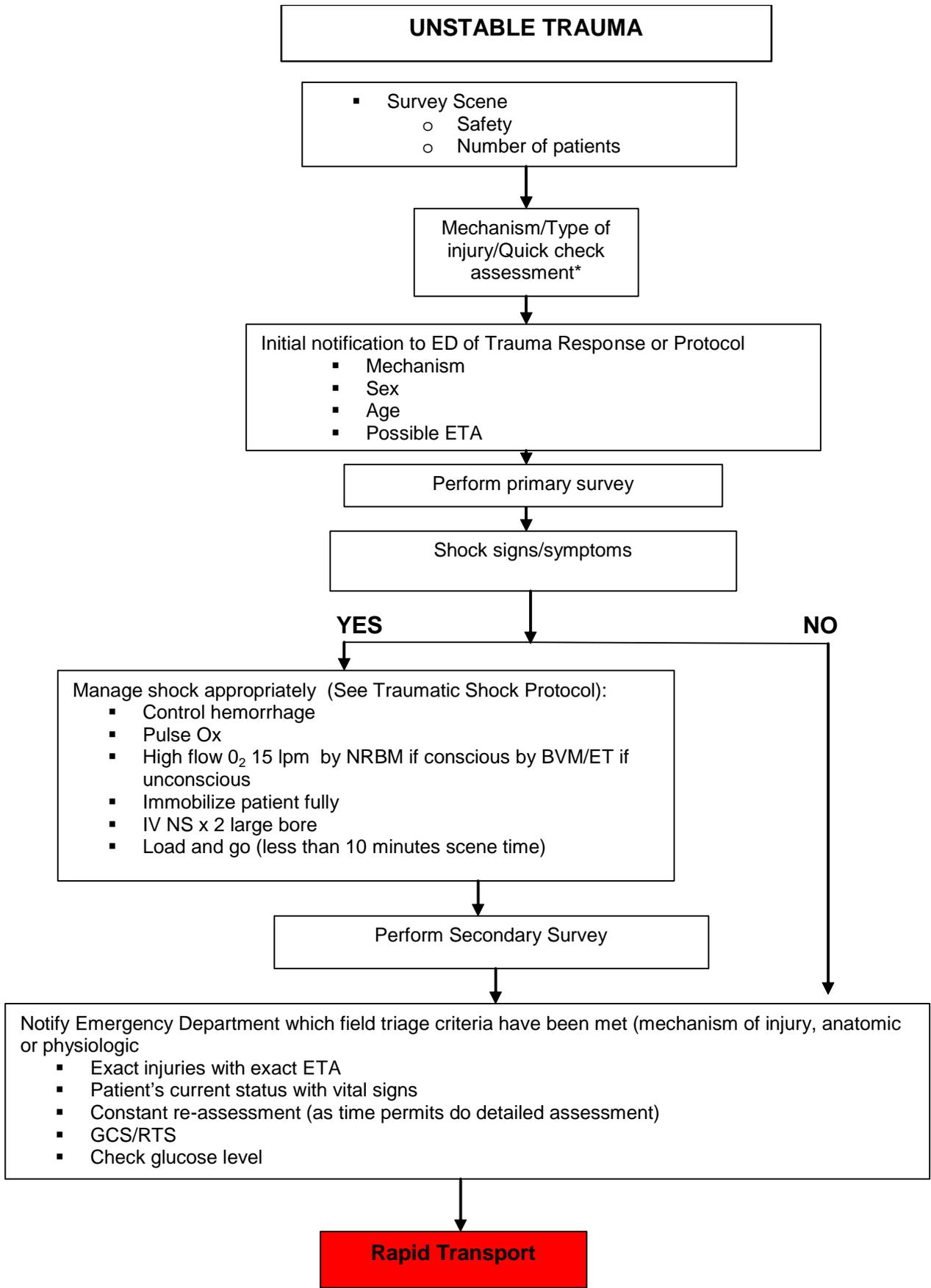
- Angulations with no distal pulse – traction for realignment. Check neuro/vascular status, splint, check neuro/vascular status
- Transport to closest appropriate hospital

### AMPUTATED PARTS

- Initial Assessment/Resuscitation
  - Manage shock appropriately
  - Detailed Assessment
    - Length of time of amputation
  - Short transport (local) – wrap part in clean/sterile towel/sheet
  - Prolonged transport
    - Wash in LR
    - Wrap in sterile gauze with damp LR
    - Wrap in sterile towel with damp LR
    - Place in plastic bag
    - Place bag on crushed ice or ice pack for transport
- NEVER freeze part  
NEVER allow direct contact with ice  
NEVER float part in solution  
NEVER use antiseptics or other solutions on part
- Incomplete amputation – Splint in position/control hemorrhage
  - Cardiac monitor
  - Transport to closest appropriate hospital

**CONTACT MEDICAL CONTROL**

**On all trauma patients, report GCS/RTS (p 1-8a) to receiving hospital**



\*Quick Check Assessment - ABC's, location of injury or injuries

On all trauma patients, report GCS/RTS (p1-8a) to receiving hospital

# BURNS

Remove from burning process if possible (only if properly trained)

Initial Assessment

## Chemical

- Check eyes, aggressive irrigation PRN
- Remove all involved clothing (including shoes)
- Brush off dry chemicals first
- Copious H<sub>2</sub>O irrigation of all involved areas (approximately 15 minutes unless compromised Initial Assessment necessitates otherwise)
- Note chemical type and bring container
- Pulse Ox
- Administer O<sub>2</sub> 10-15 lpm via NRBM

## Flame/Electrical

- ECG quick look and connect to monitor
- Treat dysrhythmia per appropriate Cardiac Dysrhythmia protocol
- Cool with water, prevent hypothermia
- Detailed Assessment only if patient/rhythm stable and no evidence of dysrhythmia
- Pulse Ox
- Administer O<sub>2</sub> 10-15 lpm via NRBM
- All electrical burns need to be transported for physician evaluation (adult and pediatric)

## Inhalation

- Carbon monoxide, use high flow O<sub>2</sub>
  - Pulse Ox
  - Awake: 100% humidified O<sub>2</sub> by NRBM
  - Stuporous: 100% humidified O<sub>2</sub> nasal airway/assist BVM with 100% O<sub>2</sub>
  - Unconscious: ET tube with supplemental high flow O<sub>2</sub> assist PRN
  - Airway injury
- Highly sensitive – laryngospasm common  
-Rapid transport if airway is compromised  
-Airway procedures only if necessary to save life (may induce laryngospasm)

- Detailed Assessment/Treatment  
Assess
  - Possible carbon monoxide poisoning
  - Heat inhalation injury/airway
  - Approximate burn size, depth, and location
  - Other injuries and illnesses
- Treatment – clean lint-free DRY sheets or blankets on wound
- Cardiac monitor
- IV NS

Transport – keep patient warm, prevent hypothermia. Do not transport in wet clothing, sheet, blanket or ice.

**CONTACT MEDICAL CONTROL**

See Analgesic Protocol for pain management

## POISON - STINGS

- Initial Assessment/Resuscitation:
  - Pulse Ox
  - Assure airway/O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN
  - Watch for anaphylaxis/shock and treat per protocol if indicated
- Detailed Assessment
  - Identify cause: insect, etc. (bring) – length of time since sting
- Keep patient at rest, NPO
- Vital signs q 5 minutes
- Cardiac monitor
- IV NS KVO – large bore IV's
- Benadryl 25 – 50 mg IM

**CONTACT MEDICAL CONTROL**

## ANAPHYLAXIS

- Epinephrine 0.3 – 0.5 ml. of 1:1000 subq if systemic allergic reaction without shock
- Transport STAT, start IV NS large bore en route
- Monitor ECG. Monitor and follow Airway Protocol PRN

**CONTACT MEDICAL CONTROL as soon as anaphylaxis is identified. STAT orders may include the following:**

- 1 ml of 1:10,000 solution Epinephrine, IV titrate to effect (relief of airway compromise, reduction of bronchospasms, adequate circulation) monitoring B/P
- Benadryl 25-50 mg slow IV push or deep IM

## POISONING

- Initial Assessment/Resuscitation
  - Pulse Ox
  - Assure airway; O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN
  - ECG quick look and connect to monitor
- Detailed Assessment
- Eye and skin decontamination: Copious H<sub>2</sub>O flush (if appropriate)

**CONTACT MEDICAL CONTROL/orders may include the following:**

- Bring container of poison to ED
- IV as ordered

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## ORGANOPHOSPHATE/CARBAMATE POISONING

- Scene Safety
  - Personal protection
  - Decontamination

- Initial Assessment/Resuscitation:
  - Pulse Ox
  - Assure airway; O<sub>2</sub> 10 – 15 lpm by NRB/assist or intubate PRN
  - Suction PRN
  - Cardiac Monitor watch for dysrhythmias
  - IV NS KVO
  - Obtain history
- Detailed assessment

**CONTACT MEDICAL CONTROL/orders may include the following:**

- Atropine 2 mg IV every 1 to 15 minutes as required to induce; tachycardia, flushing, and decreased secretions
- Ativan 0.5-2mg. IV or diazepam 2-5mg IV for seizures
- Activated charcoal

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## SNAKEBITES

- Assure scene safety/location of snake
- Obtain information: Confirm bite marks by visualization, determine type, size, length of snake, measure initial width between bite marks, time lapsed since bite occurred
- Initial Assessment/Resuscitation PRN: Assure airway/manage appropriately
- Keep patient at rest, NPO
- Immobilize area bitten (leaving wound exposed) Do not place in ice or cold pack on bite site
- **RAPID TRANSPORT**

### Probable envenomation by poisonous snakebite or unknown type of snake

- Pulse Ox
- Manage airway appropriately with O<sub>2</sub> therapy/assist PRN
- Vital signs q 5 minutes
- Cardiac monitor
- IV NS at KVO rate
- Immobilize involved extremity and lower below level of heart

**CONTACT MEDICAL  
CONTROL IMMEDIATELY**

### No envenomation or non-poisonous snakebite

- Vital signs/reassess q 5 minutes

**CONTACT MEDICAL  
CONTROL**

- FNo bandage or dressing is recommended over bite unless it is bleeding profusely.
- FHave snake identified or brought to the hospital by qualified personnel other than your unit.
- FAbsolutely no ice or constrictive type bands.

## NEAR DROWNING

- Initial Assessment with stabilization of neck and spine (prior to removal from the water)
  - Pulse Ox
  - Assure airway; O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN
  - Intubate if needed with C-spine control
- Remove wet cold garment/prevent hypothermia
- Connect to ECG monitor
- Monitor and follow Airway/Breathing/Circulation Protocols PRN
- IV NS

**CONTACT MEDICAL CONTROL - Include length of time submerged and drowning particulars and the type of water i.e. clean or contaminated, salty or fresh: orders may include the following**

- Treat Dysrhythmia per appropriate Cardiac Dysrhythmia Protocol

# HYPOTHERMIA

- Actions for all patients
- Remove wet garments
  - Protect against heat loss and wind chill
  - Maintain horizontal position
  - Avoid rough movement and excessive activity
  - Monitor core temperature
  - Monitor cardiac rhythm

**Pulse/Breathing Present**

Assess responsiveness, breathing, and Pulse Ox

**Pulse/Breathing Absent**

- Assure airway. O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN (warmed)
  - IV NS (warmed)
- CONTACT MEDICAL CONTROL**

- Start CPR
- Defibrillate VF/VT
- Intubate
- Ventilate with warm, humid oxygen (42°C-46°C) (108°-114°F)
- IV NS
- Infuse warm normal saline (43°C) (109°F)

What is core temperature?  
If accurate core temp is available – proceed. If no core temperature is available, contact medical control.

**<30°C (86°F)**

**>30°C (86°F)**

- Continue CPR
  - Withhold IV Medications
  - Limit shocks for VF/VT
  - Transport to hospital
- CONTACT MEDICAL CONTROL**

- Continue CPR
- CONTACT MEDICAL CONTROL/orders may include the following:**
- Give IV medications as indicated
  - Repeat defibrillation for VF/VT as core temperature rises

Resuscitation efforts should not be abandoned until core temperature approaches normal

# HYPERTHERMIA

## Heat Cramps

- Initial Assessment
  - Pulse Ox
  - Assure airway; O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN
- Detailed Assessment
- Aggressive cooling
- Cardiac Monitor
- Oral fluids

**CONTACT  
MEDICAL  
CONTROL**

## Heat Exhaustion

- Initial Assessment
  - Pulse Ox
  - Assure airway; O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN
- ECG quick look and connect to monitor
- Remove patient from heat, place in supine position
- Detailed Assessment
- Actively cool patient: loosen/remove clothing, tepid water skin irrigation, fan, wet towels
- Monitor vital signs q 5 to 10 minutes
- Consider **CAUTIOUS** oral replacement

**CONTACT  
MEDICAL  
CONTROL**

- IV NS KVO
- Rapid Transport

## Heat Stroke

- Initial Assessment
  - Pulse Ox
  - Assure airway; O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN
- ECG quick look and connect to monitor
- Remove patient from heat; place in supine position
- Detailed Assessment
- Actively cool patient: Loosen/remove clothes, tepid water skin irrigations, fan, wet towels. (Consider iced water soaked towels over trunk extremities, axilla & groin)
- Monitor vital signs q 5-10 minutes
- IV NS KVO

**CONTACT  
MEDICAL  
CONTROL**

- Rapid transport

## GENERAL OVERDOSE

### Initial Assessment

- Pulse Ox
- Assure airway; O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN
- Cardiac Monitor
- IV NS KVO
- Appropriate blood samples
- Narcan 2 mg IV
- D<sub>50</sub>W 50 ml if comatose; otherwise administer dextrostix
- 100 mg Thiamine if suspect malnourished

Detailed Assessment

**CONTACT MEDICAL CONTROL**

Gastric emptying is NOT indicated for comatose/stuporous patient, caustics (acid or alkali), petroleum products, phenothiazine

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# NARCOTIC OVERDOSE

Scene Safety (law enforcement on scene)

Initial Assessment/Resuscitation:

- Pulse Ox
- Assure airway; O<sub>2</sub> 10 to 15 lpm by NRBM/assist PRN or intubation if indicated
- Cardiac Monitor
- Obtain history
- Detailed Assessment
- Dextrostix

IV NS KVO

**CONTACT MEDICAL CONTROL/orders may include the following**

Naloxone titrated to effect

Restrain PRN (after receiving order from Medical Control or law enforcement)

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# TRICYCLIC ANTIDEPRESSANT OVERDOSE

Scene Safety

Initial Assessment/Resuscitation

- Pulse Ox
- Assure airway; O<sub>2</sub> 10 to 15 lpm by NRBM/assist or Intubate PRN
- Cardiac Monitor
- Obtain history
- Restrain as per medical control
- IV NS KVO

Detailed Assessment

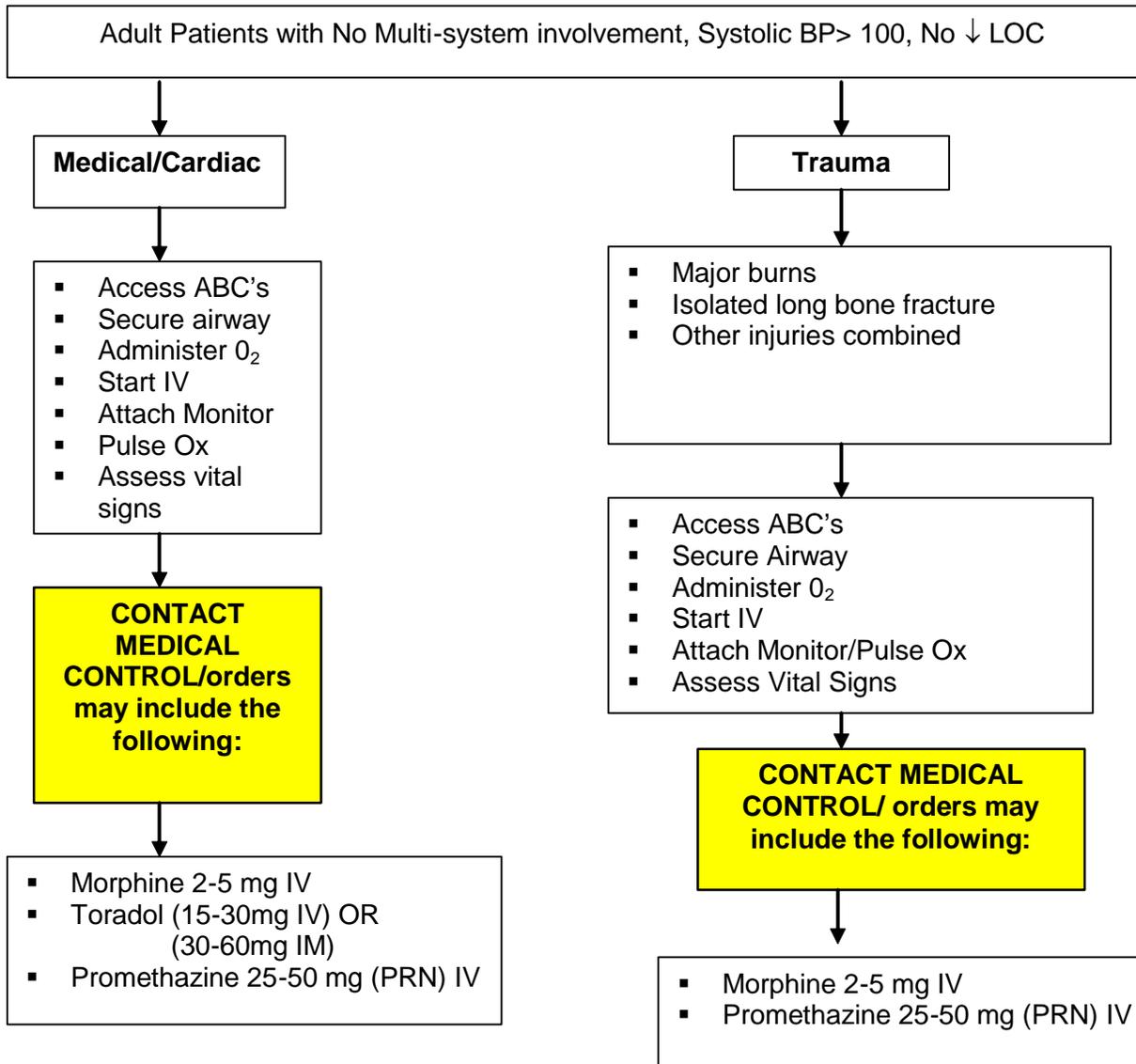
**Rapid Transport**

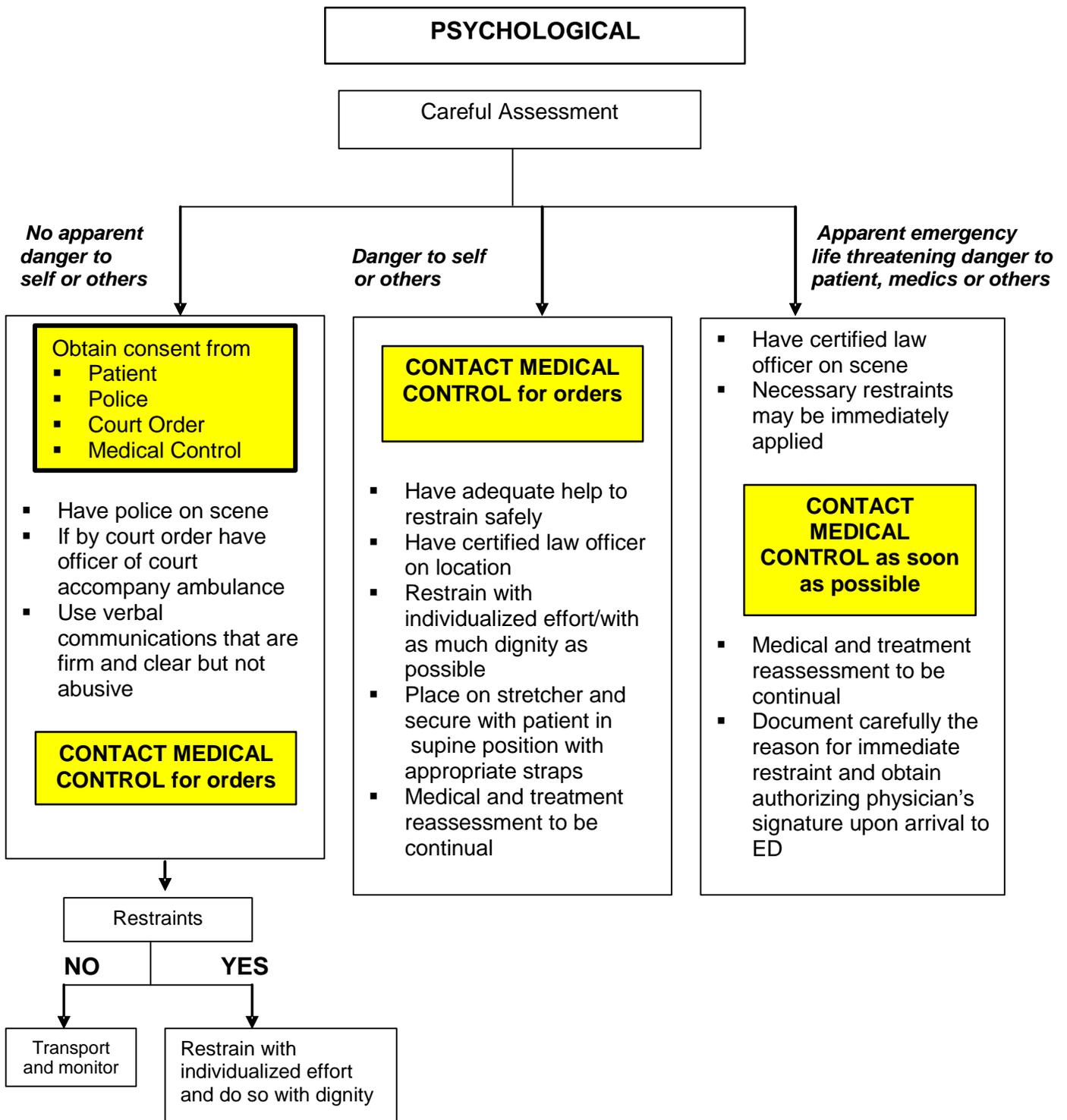
**CONTACT MEDICAL CONTROL/orders may include the following**

Sodium Bicarbonate 1 mEq/kg IV

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# ANALGESIC PAIN MANAGEMENT





# INTRODUCTION TO PEDIATRIC GUIDELINES

## The Need for Standardized Protocols

Our emergency medical services system is founded on the principle of delegated practice. Medical oversight establishes a certain standard of emergency patient care, which is then carried out by pre-hospital providers in the field.

The term medical oversight encompasses both direct and indirect facets of medical control. Direct medical control is the on-line guidance provided by designated physicians to pre-hospital providers during emergency calls. Indirect medical control consists of training programs, patient care protocols, and quality assurance measures that are initiated by local, regional, state, and agency medical directors or advisory boards. Throughout this document, the term *Medical Control* represents all forms of medical oversight as applied by the state, region or agency. To make a delegated system work, medical direction must ensure that all pre-hospital providers are equipped to meet appropriate standards of patient care. This requires education and training, treatment protocols to guide rescuers' actions in the field, and support from qualified on-line medical control physicians as needed. The responsibilities of medical control include authorizing an accepted scope of practice for EMTs and Paramedics; verifying that pre-hospital providers have received the necessary training to render field care swiftly and skillfully; and developing and approving protocols that delineate the proper steps in patient management.

Protocols represent an important element in furthering the quality of patient care. While they cannot replace sound clinical judgement, they facilitate rapid and effective treatment. They serve to standardize management actions so that, pre-hospital providers will know how to proceed in a given patient presentation. They also provide an unambiguous gauge by which adherence to EMS practice standards may be measured.

## Putting the Protocols to Use

EMS systems provide services under widely varying conditions. Current protocols therefore differ between agencies. The protocols developed and presented in this document provide a basis for medical direction to create or refine existing protocols to meet local, regional and state needs. In this manner, the protocols set forth a standardized approach to pediatric treatment that can be employed by a wide variety of EMS providers. The following legend has been established to differentiate between on-line medical control and off-line medical control:



Interventions that are considered standing orders, requiring no consultation with on-line medical control.



Interventions that are considered medical control options, to be carried out only after obtaining approval from an on-line physician.

Because of the highly individual determination, these protocols do not designate the aspects of practice for any specific EMS provider. In deciding which interventions should be on-line versus off-line medical direction, EMS providers and local medical direction should consider critical time factors. For certain lifesaving interventions, taking the time to consult an on-line medical control physician before initiating the action could have a detrimental effect on patient survival. Critical factors include:

- Any measure needed to establish or maintain airway patency, including advanced airway procedures
- Treatment for respiratory distress, failure or arrest
- Defibrillation or cardioversion for cardiopulmonary failure or arrest
- Treatment for shock
- Treatment for prolonged seizures
- Treatment for anaphylaxis

**Any patient requiring ALS procedures, Urgent or Emergent transport should result in early contact with Medical Control. Therefore notification from the scene, prior to transport is extremely important for infants and children.**

## PEDIATRIC APPARENT LIFE-THREATENING EVENT (ALTE)

An ALTE is an episode in a child less than 2 years of age that is

- Frightening to the observer
- Consists of some combination of
  - ✓ Apnea
  - ✓ Skin color change (cyanosis, redness, pallor, plethora)
  - ✓ Marked change in muscle tone
  - ✓ Choking or gagging not associated with feeding or a witnessed foreign body aspiration

“First Look” Assessment:

- Appearance
- Work of Breathing
- Circulation to Skin

### Caution!

Most patient will appear stable and have a normal exam  
An ALTE may be a sign of a serious underlying illness or injury  
Further medical evaluation is essential and patients must be transported to an appropriate facility

- Assess & Support ABC's As Needed
- Place on Cardiac Monitor

Go to Appropriate Protocol

If Parent/Guardian Refuses Care or Transport  
Contact Medical Control  
Have Responsible Party Available to Speak  
Directly with Physician

# INITIAL ASSESSMENT - PEDIATRIC

**"First Look" Assessment:**

- Appearance
- Work of Breathing
- Circulation to Skin

Assess Mental Status:  
 AVPU  
 Modified GCS

Alert and Responsive for Age

Unresponsive to Voice or Pain

Assess Airway

Clear

Obstructed

Go to Airway Obstruction Protocol

Assess Breathing

Adequate

Inadequate

Absent

Support as Appropriate  
 Go to Respiratory Distress Protocol

Give 2 Rescue Breaths

Assess Pulse

Present

Absent

Adequate

Inadequate

Attach AED or Quick Look Paddles  
 Or  
 Begin CPR  
 100 Compressions/minute  
 15:2 2 Rescuer  
 30:2 1 Rescuer  
 Go to Pediatric Asystole &  
 Pulseless Arrest Protocol

Detailed Exam  
 Go to Appropriate Protocol  
 Frequent Reassessments

Too Slow

Too Fast  
Narrow Complex

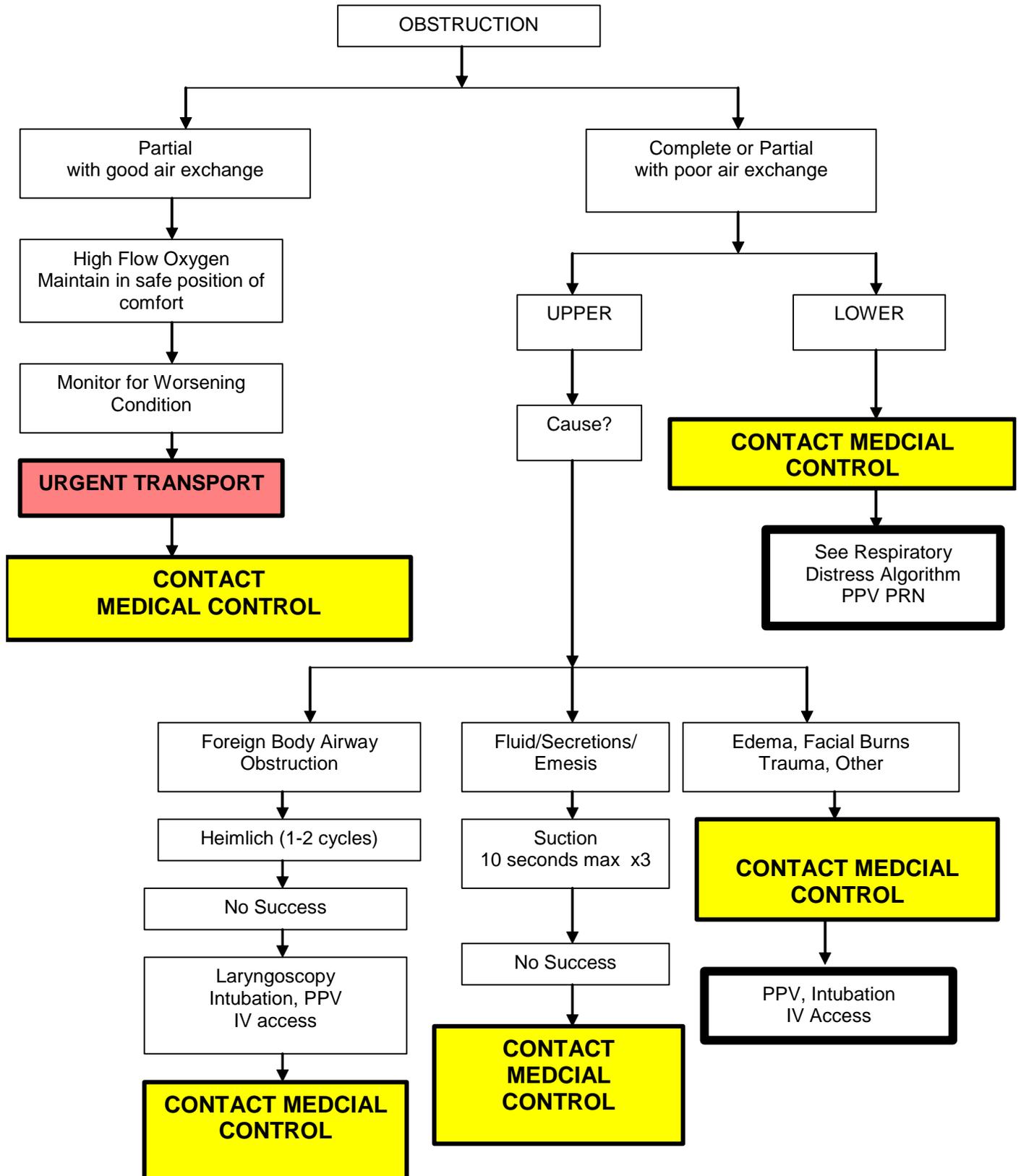
Too Fast  
Wide complex

Go to Pediatric  
Bradycardia  
Protocol

Go to Pediatric  
Supraventricular  
Protocol

Go to Pediatric  
Ventricular  
Tachycardia  
Protocol

# PEDIATRIC AIRWAY OBSTRUCTION



# PEDIATRIC ASYSTOLE & PULSELESS ARREST PROTOCOL

Attach AED (>1 year of age) or Quick Look Paddles  
 Provide 5 Cycles of CPR Before Defibrillation in Unwitnessed Arrest  
 • Do Not Delay Defibrillation in Witnessed Arrest  
 100 Compressions/minute  
 15:2 2 Rescuer OR 30:2 1 Rescuer

If Using Monitor/Defibrillator Confirm Shockable Rhythm in more than One Lead

VF/Pulseless VT

Defibrillate One Time  
 • Manual: 2 j/kg  
 • AED: Pediatric Mode if Available

Provide 5 Cycles of CPR  
 Establish Airway  
 Establish Vascular Access

Shockable Rhythm?

Yes

No

Go to Asystole/PEA Column

Asystole/PEA

Resume CPR Immediately  
 Epinephrine  
 IV/IO 0.01 mg/kg (1:10,000) [0.01 mL/kg]  
 ET:  
 0.1 mg/kg (1:1,000) [0.1 mL/kg]  
 flush with 5 mL NS  
 Neonate 0.01 mg/kg (1:10,000) [0.01 mL/kg]  
 flush with 1 mL NS  
 Repeat every 3–5 minutes

Provide 5 Cycles of CPR  
 Establish Airway  
 Establish Vascular Access

Yes

Shockable Rhythm?

No

Contact Medical Control

Pulse Present  
 Stabilize

Go to VF/Pulseless VT Column

Defibrillate One Time  
 • Manual: 4 j/kg  
 • AED: Pediatric Mode if Available  
 Resume CPR Immediately  
 Epinephrine  
 IV/IO 0.01 mg/kg (1:10,000) [0.01 mL/kg]  
 ET:  
 0.1 mg/kg (1:1,000) [0.1 mL/kg]  
 flush with 5 mL NS  
 Neonate 0.01 mg/kg (1:10,000) [0.01 mL/kg]  
 flush with 1 mL NS  
 Repeat every 3–5 minutes

Provide 5 Cycles of CPR

Contact Medical Control

Shockable Rhythm?

Defibrillate One Time  
 • Manual: 4 j/kg  
 • AED: Pediatric Mode if Available  
 Resume CPR Immediately  
 May Receive order for  
 • Lidocaine 1 mg/kg IV/IO/ET  
 • Amiodarone 5 mg/kg IV/IO  
 • Magnesium 50 mg/kg (2 g max)

Provide 5 Cycles of CPR

**Possible Causes of & Treatments for Asystole/PEA**

- Hypoxia → Ventilation
- Hypovolemia → NS/LR 20mL/kg [10 mL/kg Neonate]
- Hydrogen ion (acidosis) → Sodium Bicarbonate 1 mEq/kg  
On-Line Medical Control Only
- Hypo-/hyperkalemia
- Hypoglycemia → Go to Altered Blood Sugar Protocol
- Hypothermia → Warming
- Toxins
- Tamponade (cardiac)
- Tension pneumothorax → Needle Decompression Thoracostomy
- Thrombus
- Trauma → Go to Trauma Protocol

# PEDIATRIC BRADYCARDIA PROTOCOL

- Assess & Support ABC's As Needed
- Hi-flow Oxygen
- Support Breathing if Respiratory Compromise Present
- Place on Cardiac Monitor

**Hemodynamically Stable?**  
 Hemodynamically stable is defined as a systolic blood pressure

- Greater than 60 in neonates (patients less than 29 days old)
- Greater than 70 in infants (patients less than 1 year of age)
- Greater than  $[70 + (2 \times \text{years}) = \text{systolic BP}]$  (for patient age 1-10 years)
- Greater than 90 (for patients 10 years and older)

Yes

Observe  
Support ABC's  
Frequent Reassessments  
Go to Appropriate Protocol

**Contact Medical Control**

**Urgent Transport**

No

If Pulse is less than 60 in Infant/Child  
Despite Adequate Oxygenation  
Perform CPR

Establish Vascular Access

**Contact Medical Control**

**Epinephrine**  
 IV/IO 0.01 mg/kg (1:10,000) [0.01 mL/kg]  
 ET:  
 0.1 mg/kg (1:1,000) [0.1 mL/kg]  
 flush with 5 mL NS  
 Neonate 0.01 mg/kg (1:10,000) [0.01 mL/kg]  
 flush with 1 mL NS  
 Repeat every 3–5 minutes

Consider Possible Causes

**Atropine**  
 For increased Vagal Tone  
 IV/IO 0.02 mg/kg  
 Minimum Dose 0.1 mg  
 Maximum Dose 1 mg  
 ET 0.03 mg/kg  
 flush with 5 mL NS

Consider Transcutaneous Pacing

If becomes Pulseless  
Go to Pediatric Asystole &  
Pulseless Arrest Protocol

**Emergent Transport**

**Possible Causes of & Treatments for Bradycardia**

- Hypoxia → Ventilation
- Hypovolemia → NS/LR 20mL/kg [10 mL/kg Neonate]
- Hydrogen ion (acidosis) → Sodium Bicarbonate 1 mEq/kg  
On-Line Medical Control Only
- Hypo-/hyperkalemia
- Hypoglycemia → Go to Altered Blood Sugar Protocol
- Hypothermia → Warming
- Toxins
- Tamponade (cardiac)
- Tension pneumothorax → Needle Decompression Thoracostomy
- Thrombus
- Trauma → Go to Trauma Protocol

# PEDIATRIC SUPRAVENTRICULAR TACHYCARDIA PROTOCOL

(Too Fast, Narrow Complex [QRS  $\leq$ 0.08 Seconds])

- Assess & Support ABC's As Needed
- Hi-flow Oxygen
- Support Breathing if Respiratory Compromise Present
- Place on Cardiac Monitor

Pulse greater than  
180 – Child  
220 - Infant

No

Yes

Consider Underlying Cause

**Hemodynamically Stable?**  
Hemodynamically stable is defined as a systolic blood pressure

- Greater than 60 in neonates (patients less than 29 days old)
- Greater than 70 in infants (patients less than 1 year of age)
- Greater than  $[70 + (2 \times \text{years}) = \text{systolic BP}]$  (for patient age 1-10 years)
- Greater than 90 (for patients 10 years and older)

Yes

No

Establish Vascular Access

Establish Vascular Access  
in Upper Extremity

Contact Medical Control

May Receive Orders for  
Vagal Maneuvers

Synchronized Cardioversion 0.5 j/kg  
(Consider Midazolam 0.05 mg/kg IV  
for sedation [10 mg max])  
or  
Adenosine 0.1 mg/kg Rapid IVP  
(6 mg max)

Contact Medical Control

May Receive Orders for  
Synchronized Cardioversion 1-2 j/kg  
(Consider Midazolam 0.05 mg/kg IV  
for sedation [10 mg max]  
if not already given)  
Adenosine 0.2 mg/kg Rapid IVP  
(12 mg max)

**Possible Causes of & Treatments for Supraventricular Tachycardia**

- Hypoxia → Ventilation
- Hypovolemia → NS/LR 20mL/kg [10 mL/kg Neonate]
- Hydrogen ion (acidosis) → Sodium Bicarbonate 1 mEq/kg  
On-Line Medical Control Only
- Hypo-/hyperkalemia
- Hypoglycemia → Go to Altered Blood Sugar Protocol
- Hypothermia → Warming
- Toxins
- Tamponade (cardiac)
- Tension pneumothorax → Needle Decompression Thoracostomy
- Thrombus
- Trauma → Go to Trauma Protocol

# PEDIATRIC VENTRICULAR TACHYCARDIA PROTOCOL

(Too Fast, Wide Complex [QRS >0.08 Seconds])

- Assess & Support ABC's As Needed
- Hi-flow Oxygen
- Support Breathing if Respiratory Compromise Present
- Place on Cardiac Monitor

Pulse Present?

No

Yes

Go to Asystole & Pulseless Arrest Protocol

### Hemodynamically Stable?

Hemodynamically stable is defined as a systolic blood pressure

- Greater than 60 in neonates (patients less than 29 days old)
- Greater than 70 in infants (patients less than 1 year of age)
- Greater than  $[70 + (2 \times \text{years}) = \text{systolic BP}]$  (for patient age 1-10 years)
- Greater than 90 (for patients 10 years and older)

Yes

No

Establish Vascular Access

Establish Vascular Access

Contact Medical Control

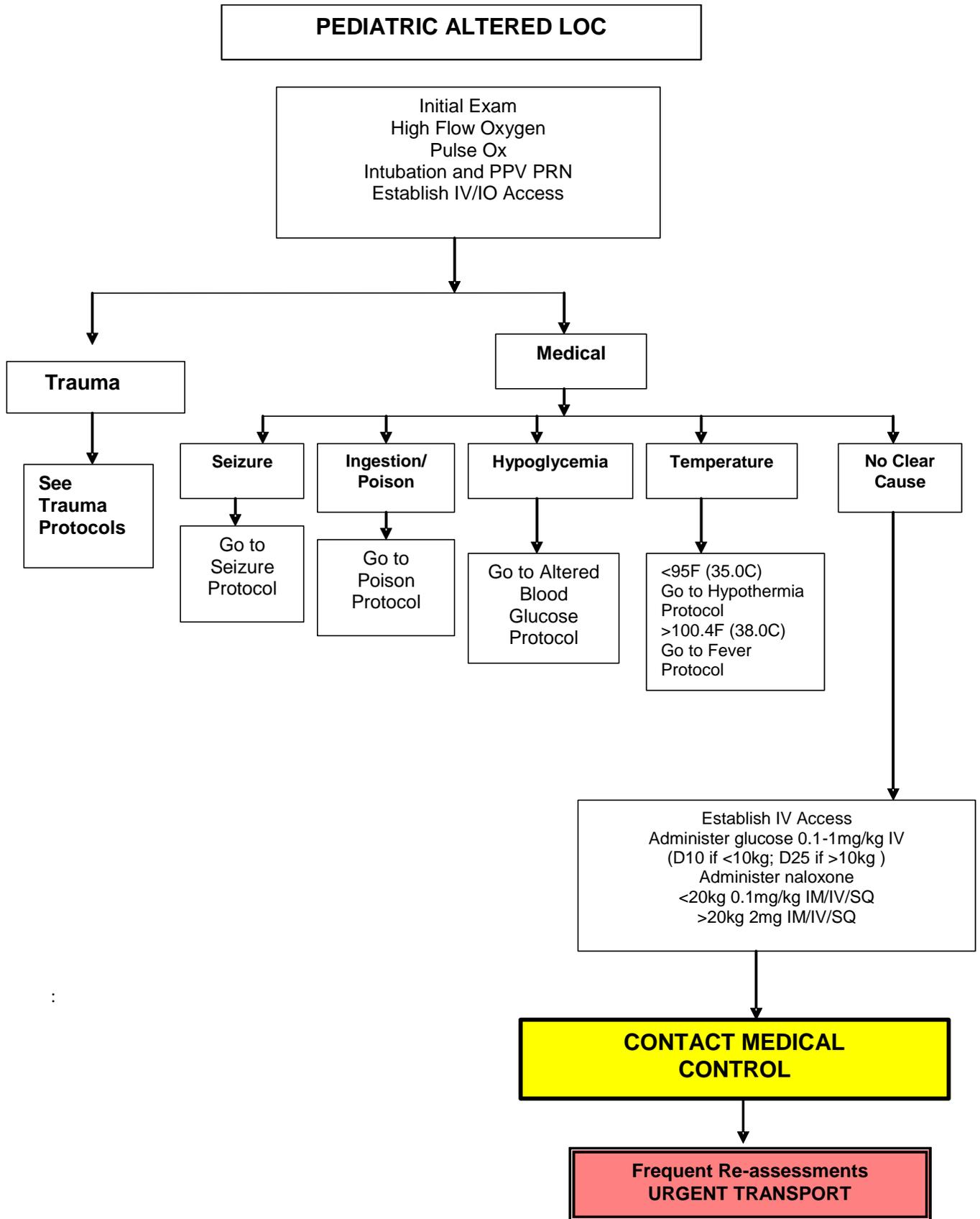
Synchronized Cardioversion 0.5 j/kg

- May Receive order for
- Lidocaine 1 mg/kg IV/IO/ET
  - Amiodarone 5 mg/kg IV/IO
  - Adenosine 0.1 mg/kg Rapid IVP (6 mg max)

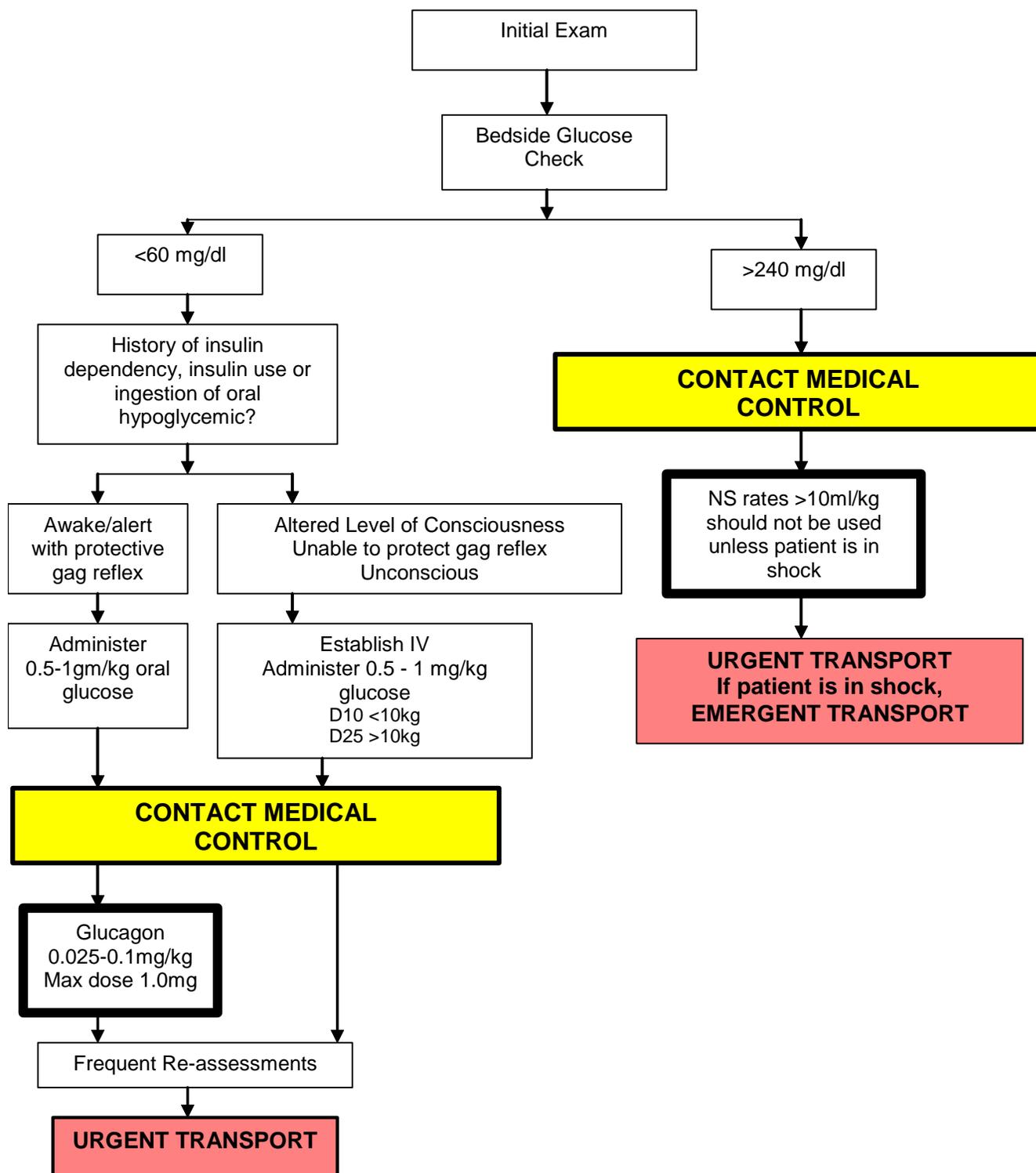
Reassess  
If Still Unstable  
Synchronized Cardioversion 1 j/kg

Contact Medical Control

- May Receive Orders for
- Synchronized Cardioversion 2 j/kg (Consider Midazolam 0.05 mg/kg IV for sedation [10 mg max] if not already given)
  - Lidocaine 1 mg/kg IV/IO/ET
  - Amiodarone 5 mg/kg IV/IO
  - Adenosine 0.1-0.2 mg/kg Rapid IVP (12 mg max)

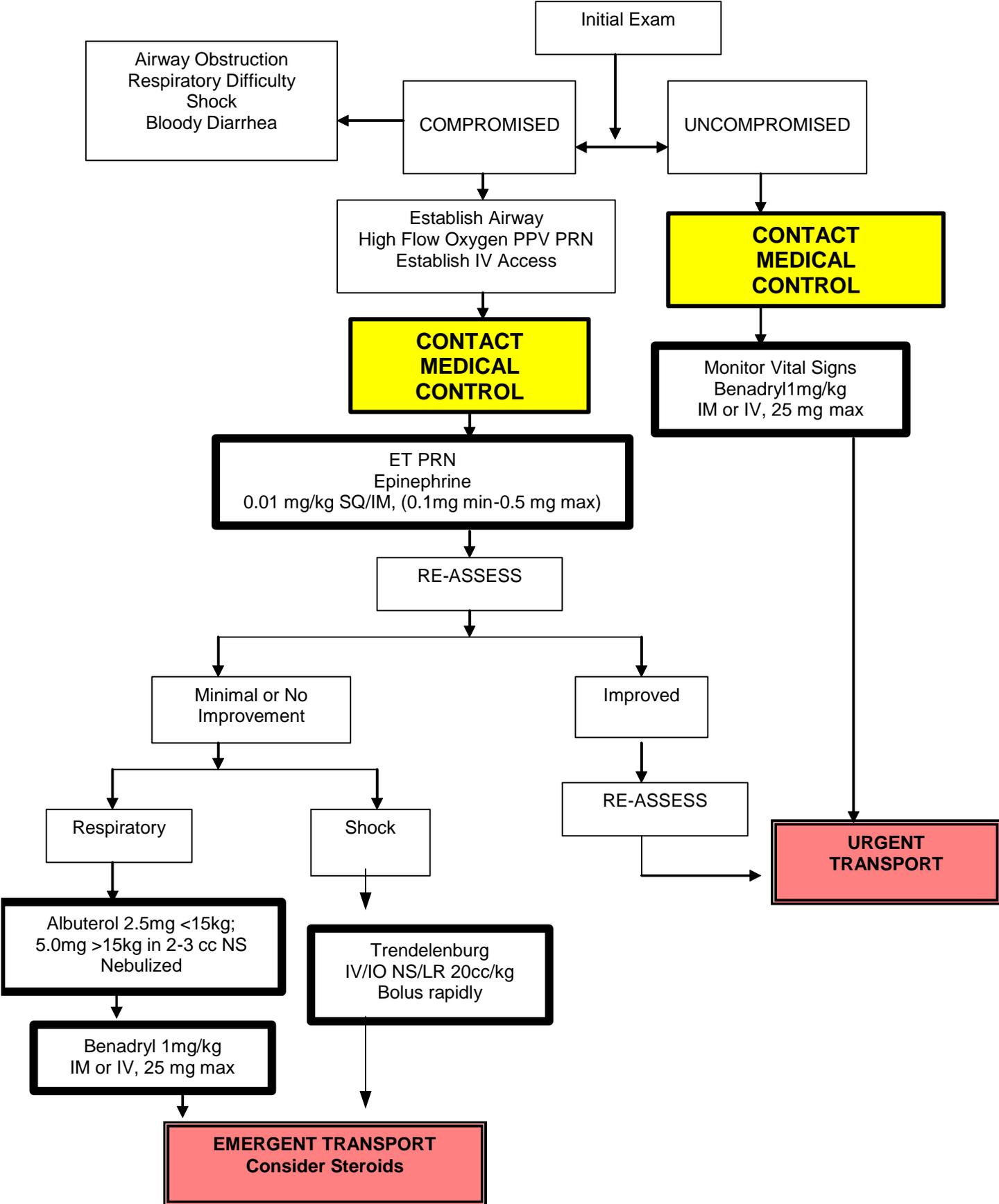


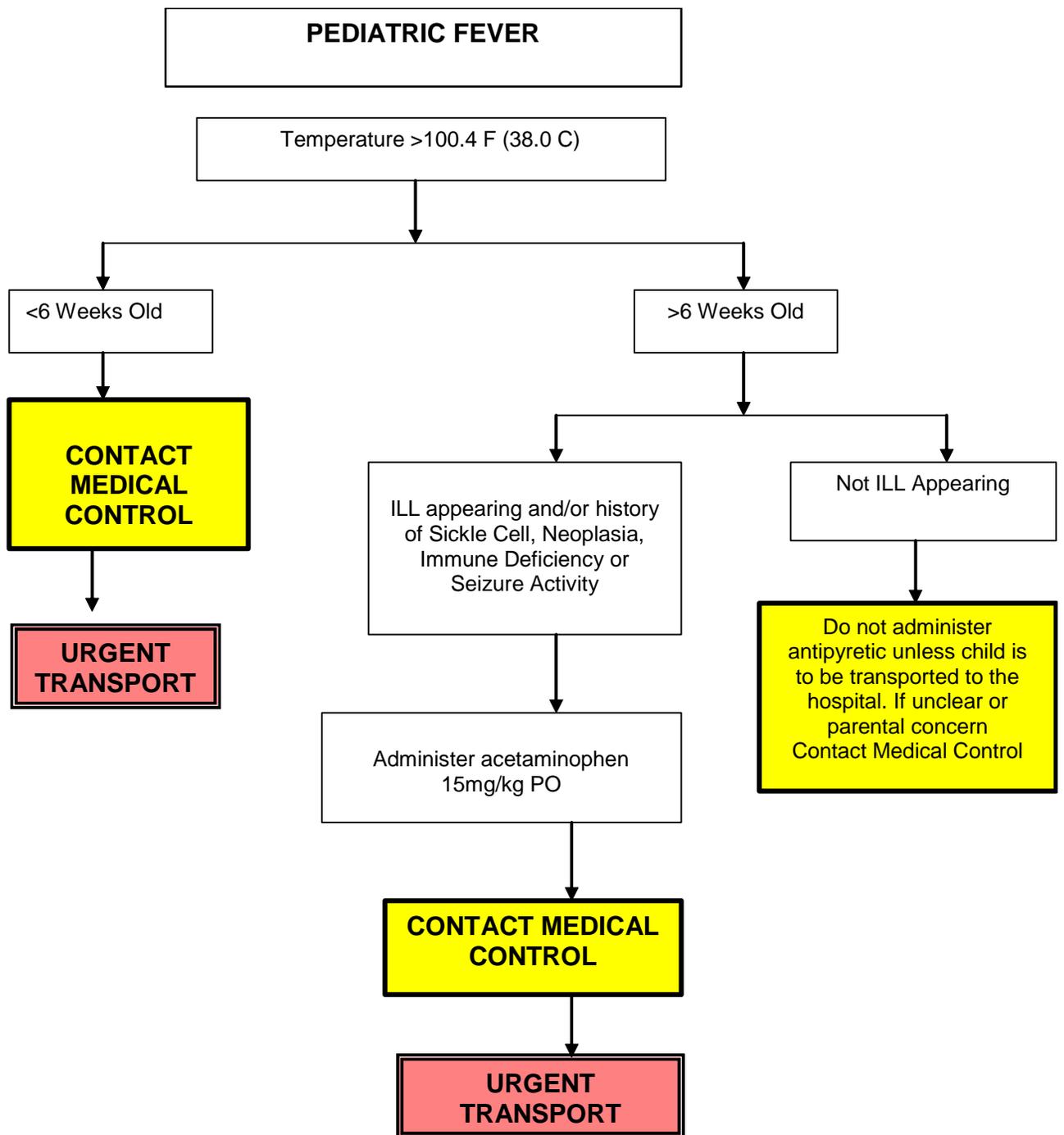
# PEDIATRIC ALTERED BLOOD GLUCOSE



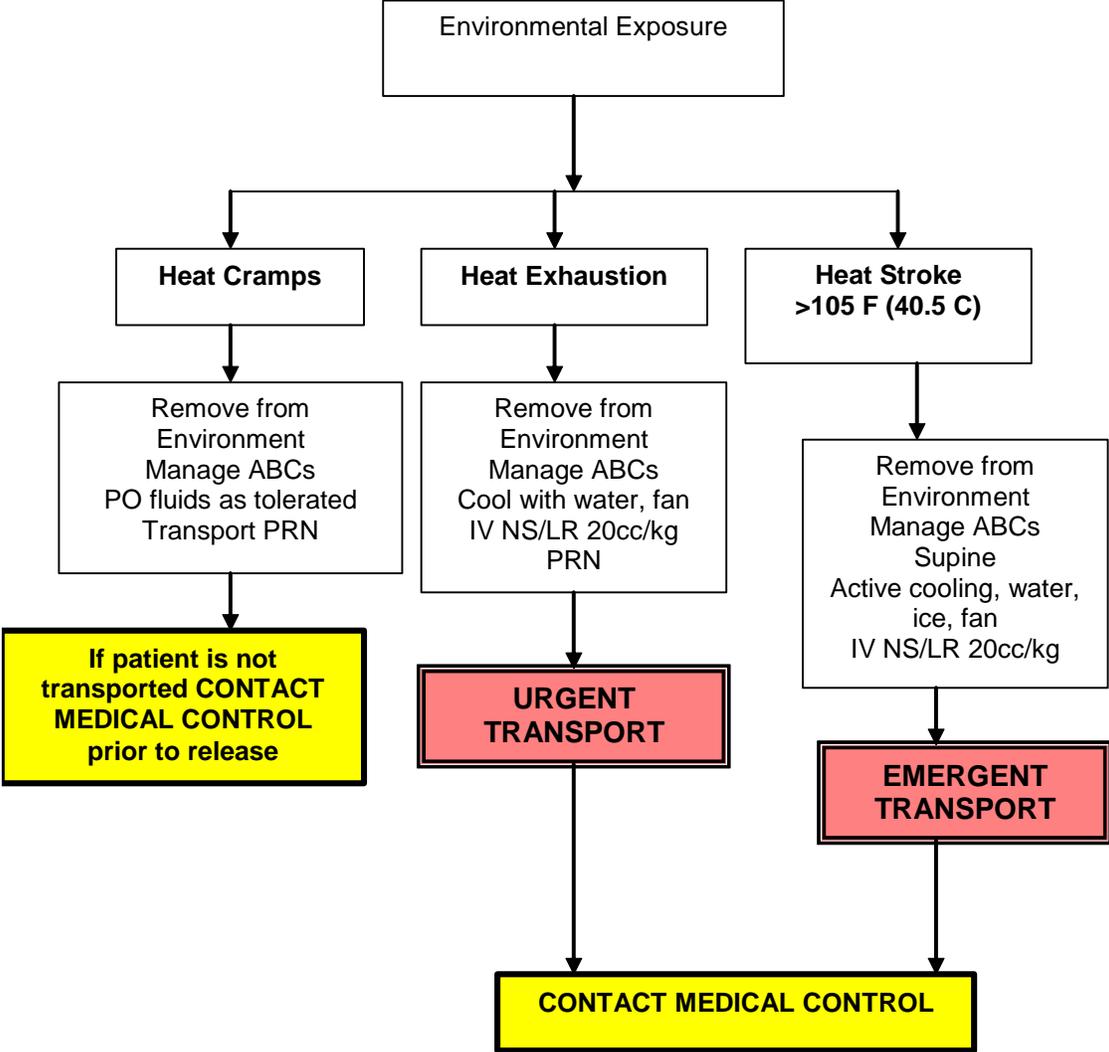
NOTE: Draw a pre-glucose blood sample in children without a history of previous glucose problems.

# PEDIATRIC ALLERGIC REACTION/ANAPHYLAXIS

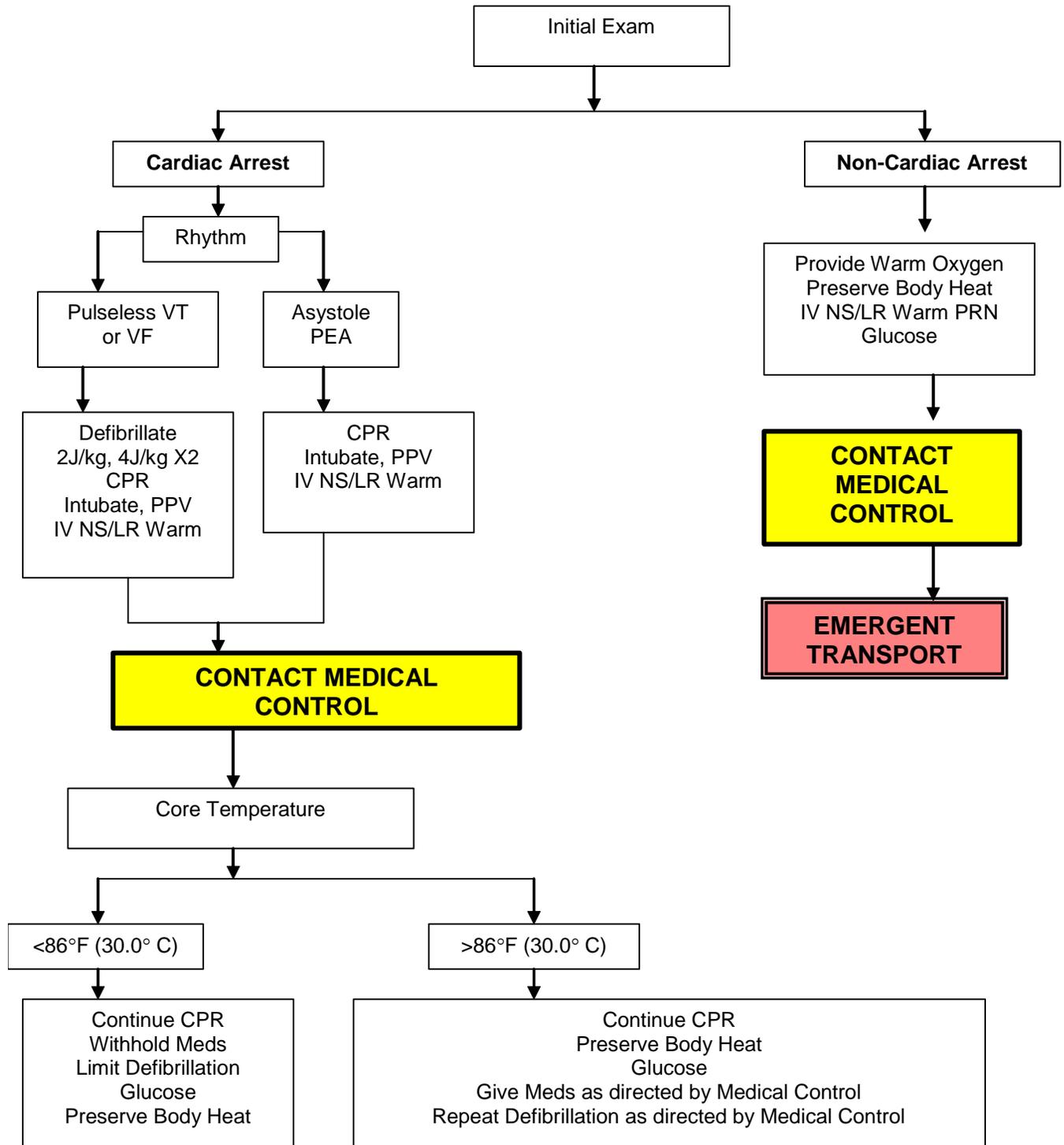




**PEDIATRIC HYPERTHERMIA: HEAT EMERGENCIES**



**PEDIATRIC HYPOTHERMIA**  
Core Temperature <95 F (35.0 C)



NOTE: Resuscitation efforts should continue until core temperature approaches normal.

**PEDIATRIC POISONING**

Initial Exam  
Manage ABC's  
High Flow Oxygen  
Follow Appropriate Protocol

Shock  
GCS<14  
Vascular Compromise  
Uncontrolled Vomiting/Diarrhea

**YES**

Maintain Airway  
PPV PRN  
IV/IO NS/LR

**CONTACT MEDICAL CONTROL**

Naloxone <20 kg: 0.02mg/kg, >20 kg 2mg SQ/IM/IV  
Glucose 0.5-1.0g/kg <10 kg D10, >10 kg D25  
Atropine 0.05-0.1 mg/kg, 2.0mg  
Glucagon 0.025-0.1mg/kg, max dose 1.0mg

**EMERGENT TRANSPORT**

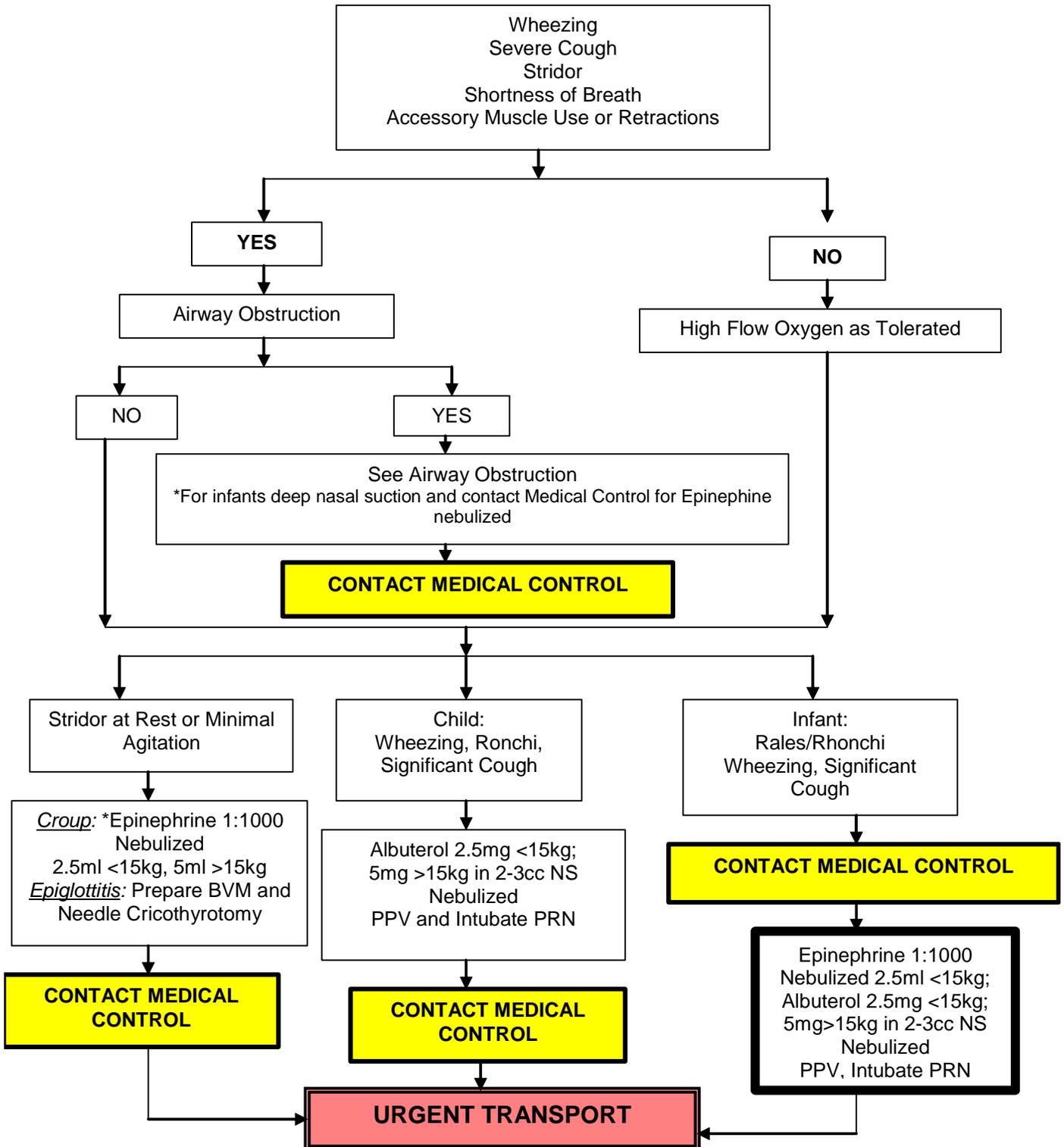
RE-ASSESS

**Contact GEORGIA POISON CENTER  
1-800-282-5846**

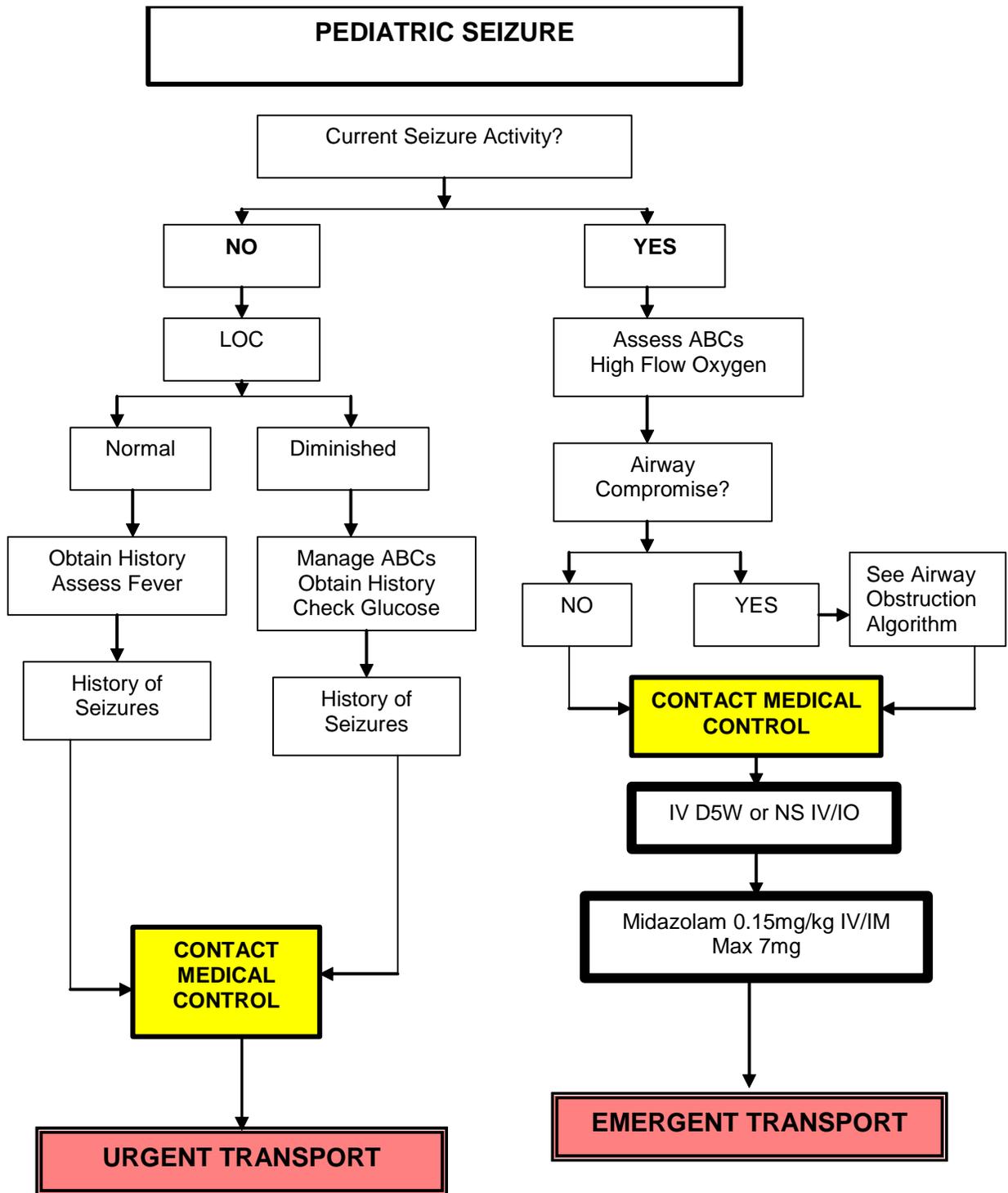
**NO**

**Contact GEORGIA POISON CENTER  
1-800-282-5846**

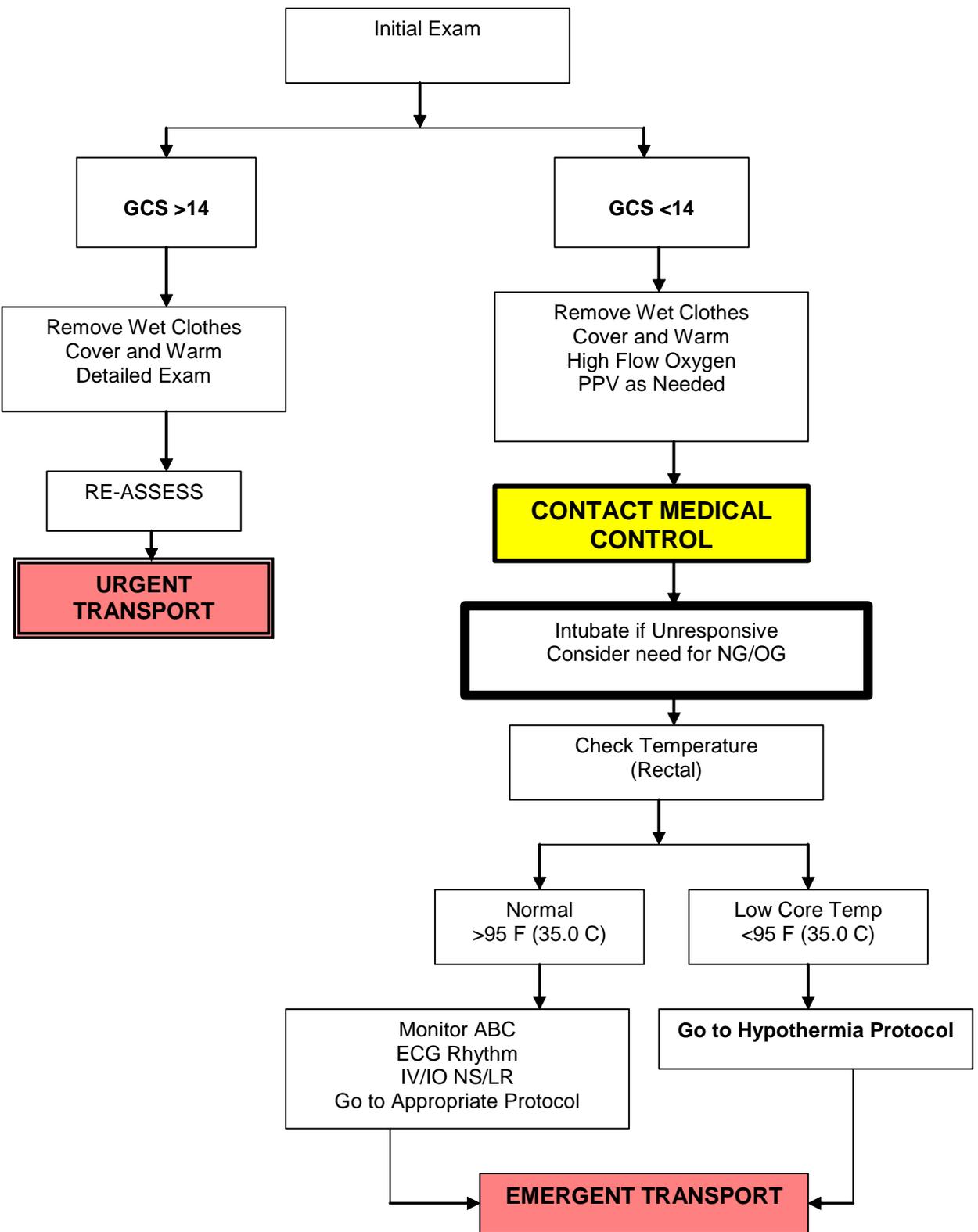
# PEDIATRIC RESPIRATORY DISTRESS

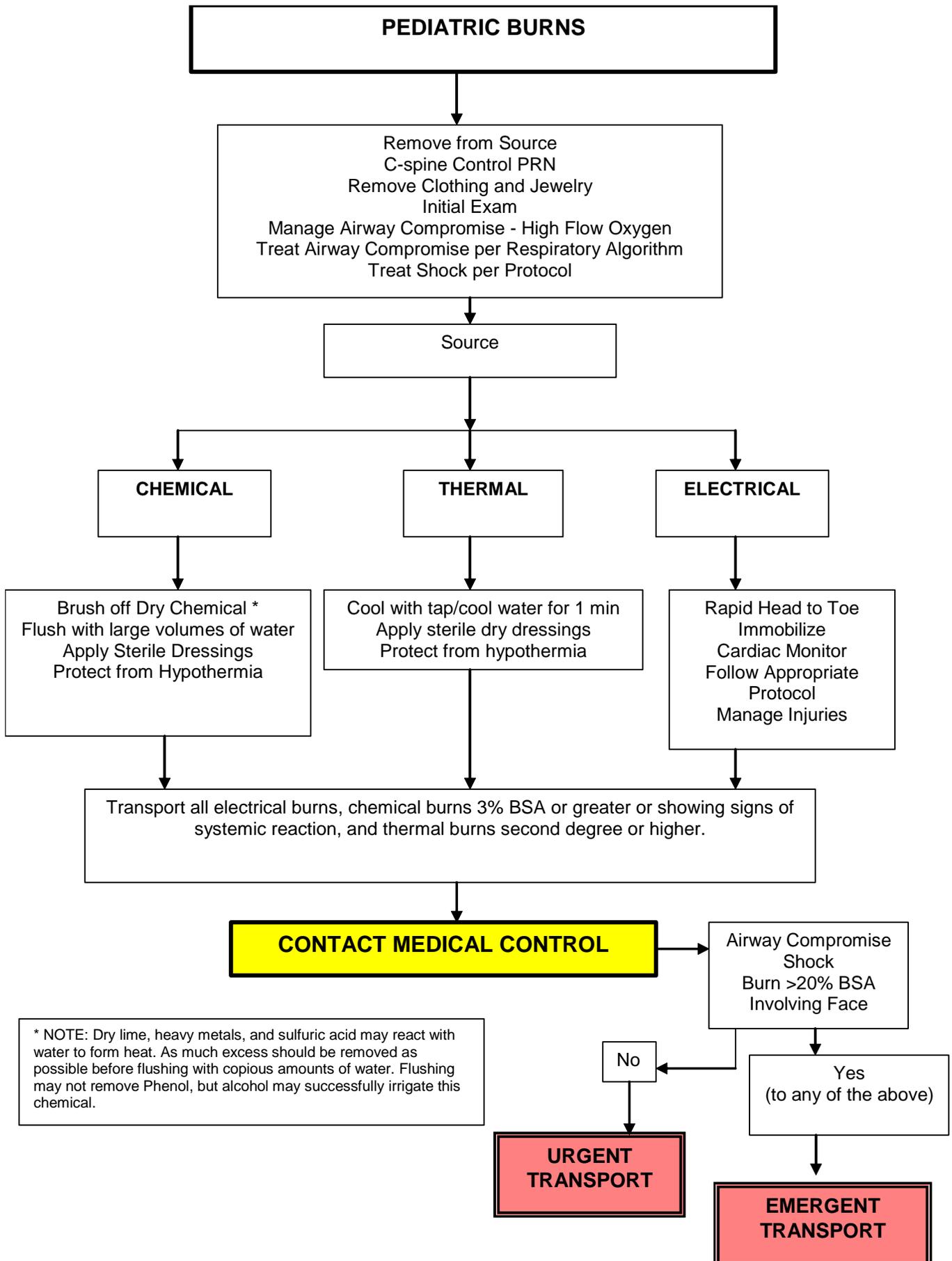


**\*A minimum 2 hour observation period after an Epinephrine nebulized treatment and 2 or more nebulized treatments most always means hospital admission.**



# PEDIATRIC SUBMERSION EVENT





**PEDIATRIC TRAUMA: BLUNT AND PENETRATING INJURY**

Scene Evaluation  
MOI  
Initial Exam

Maintain  
ABC's

Control Bleeding  
Dress serious Open Injuries  
Chest and Neck – Occlusive Dressing

Detailed Assessment

**DOES ANY OF THE FOLLOWING EXIST:**

- Glasgow Coma Scale (modified for pre-verbal children) <14
- Systolic blood pressure <90
- Respiratory rate <10 or in distress
- Pediatric Trauma Score <8
- Need for any airway adjunct
- Need for fluid resuscitation to support heart rate, peripheral perfusion and/or central pulses
- Cardiac arrest or CPR performed prior to arrival
- Penetrating injuries to head, neck, torso, and extremities proximal to elbow and knee
- Open/sucking chest wound
- Combination trauma with burns
- Two or more proximal long bone fractures
- Pelvic fractures
- Open and depressed skull fracture
- Spinal injury with paralysis or any neurologic deficit
- Amputation proximal to wrist and ankle

Yes

**CONTACT MEDICAL CONTROL /  
CONTACT PEDIATRIC TRAUMA**

High Flow Oxygen, PPV/ET PRN, IV/IO Access, Limited Fluid Resuscitation, Supine, Legs Elevated if in shock

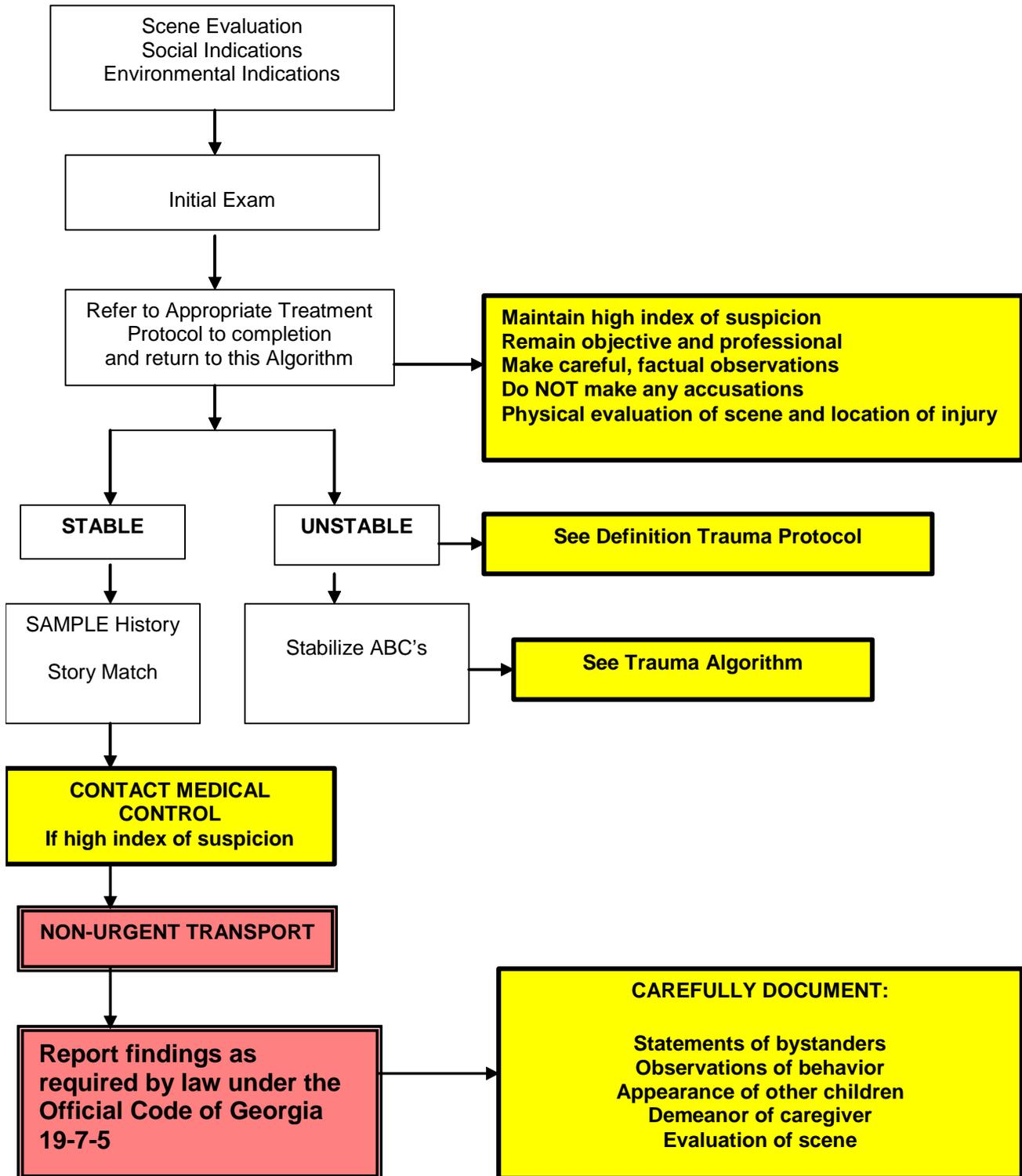
**EMERGENCY TRANSPORT**

No

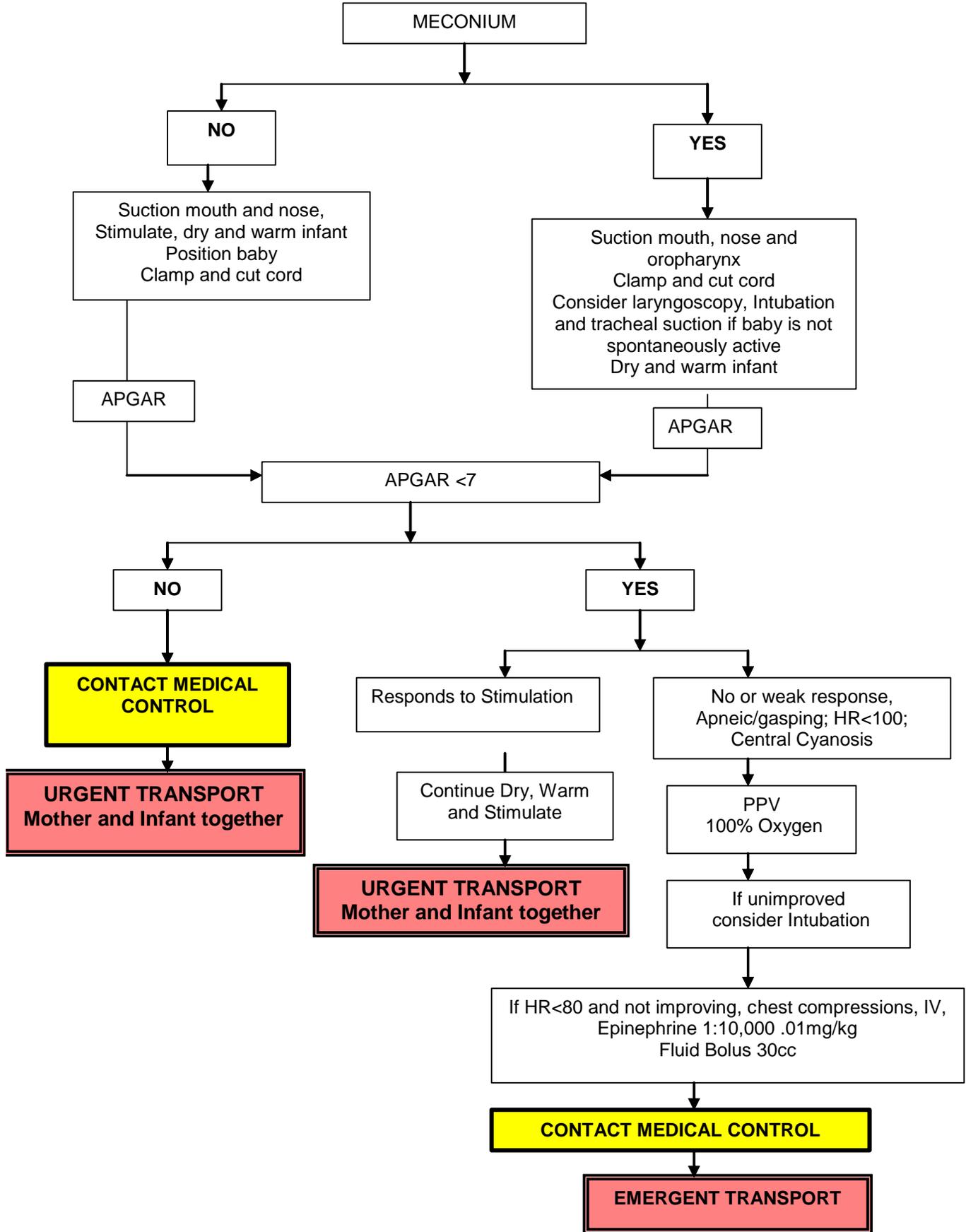
**SEE NEXT  
PAGE**

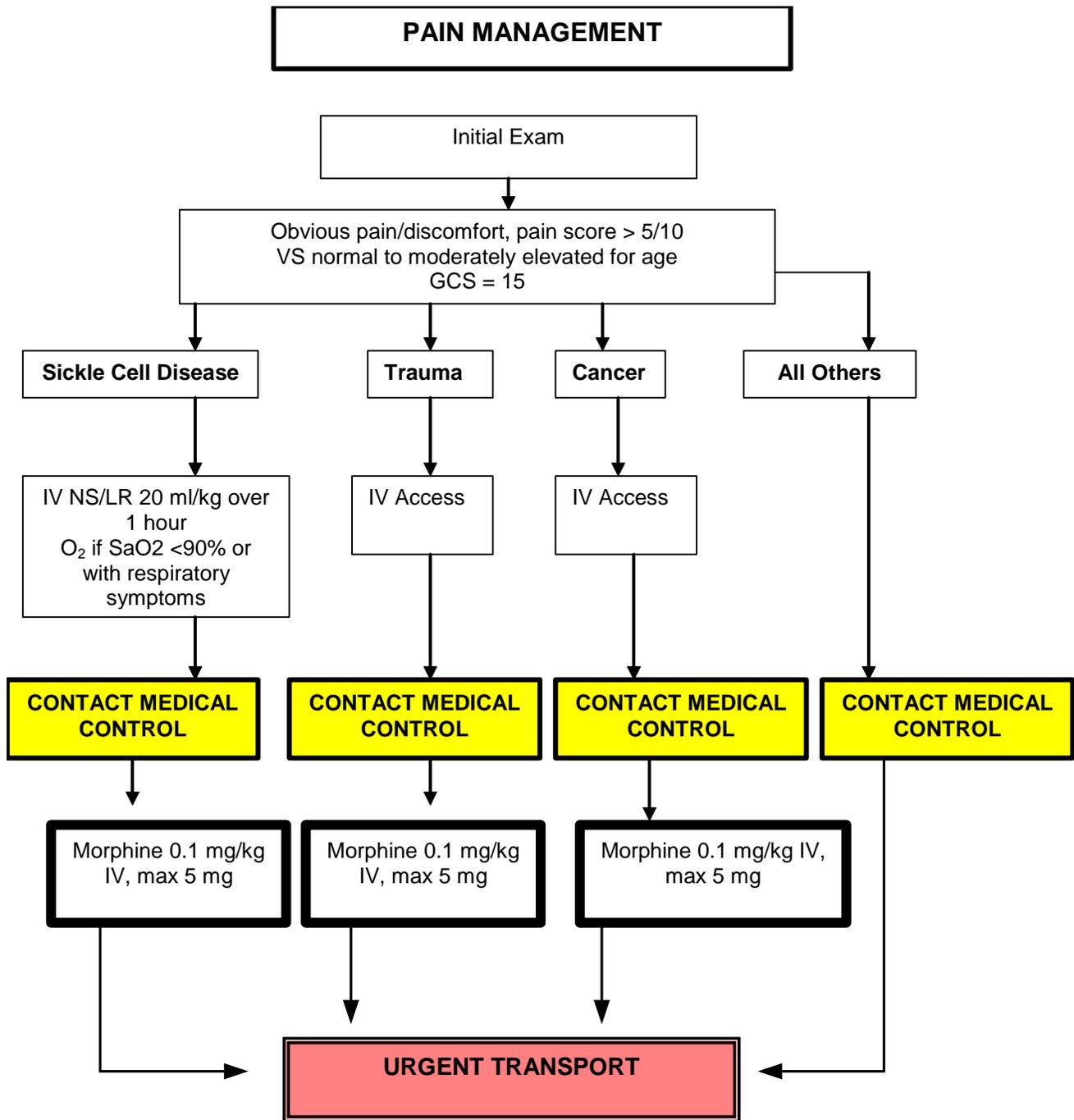


# PEDIATRIC TRAUMA: SUSPECTED CHILD ABUSE



# NEWBORN RESUSCITATION





## Safe Transportation of Pediatric Patients

The Georgia EMS community has struggled for years with how to best establish standards for the safe transportation of pediatric patients. Dr. Jeff Linzer, having repeatedly expressed his concern over how pediatric patients arrived at emergency departments, took the lead to establish some guidance for EMS providers in Georgia. Lacking any national standard or consensus on this issue did not make the task less challenging. After significant research the following standards are adopted for safe transportation of pediatric patients. Service directors and service medical directors should use this guideline when establishing local policy.

1. All pediatric patients should be safely and appropriately transported. Safe and appropriate transport never includes having the child held by another person who is riding or strapped to the gurney. No child or infant should ever be held in the parent, caregiver, or EMTs arms or lap during transport.
2. Available child restraint systems should be used for all pediatric patients. These systems should include those specifically produced for secure transport on an ambulance stretcher that includes an integrated five-point harness system. [Note: please see referenced article by Bull, Weber, Talty and Manary {page 4-6} for helpful recommendations and illustrations].
3. Children who are not patients should not routinely be transported in the ambulance. There may be extenuating circumstances that require such transport. In those cases the child should always be placed in an appropriate child restraint seat in the passenger area of the ambulance.
4. While manufacturers do not recommend using a child's own car seat for transportation post accident, such may be better than no restraint during transport. Providers should discuss with their medical director and legal staff what would present a reasonable and safe approach to this possibility.

### More information may be found at the following sites:

**Safe Ride News:** an interesting review on pediatric transport with commentary about using a car seat that had already been involved in an accident. This review emphasizes not to use the "hold and go" method of transport.

[http://www.saferidenews.com/articles\\_srn/Related/Related.htm](http://www.saferidenews.com/articles_srn/Related/Related.htm)

**Safe Transport of Children in Paramedic TRIPP (Teaching Resource for Instructors in Prehospital Pediatrics for Paramedics) from The Center for Pediatric Emergency Medicine.** Top of page 5 and pages 6-7 detail safe pediatric transport.

<http://www.cpem.org/trippals/38TRANSP.PDF>

**Idaho EMSC Project:** Use information from Dr Bull's paper as well as research from the Indiana University School of Medicine and the University of Michigan Medical School and Transportation Research Institute.

[http://www.healthandwelfare.idaho.gov/\\_Rainbow/Documents/medical/Ped\\_transport.pdf](http://www.healthandwelfare.idaho.gov/_Rainbow/Documents/medical/Ped_transport.pdf)

**The AAP's position paper on transport of children with special needs.**

<http://www.tracheostomy.com/resources/articles/transporting/transporting.htm>

**New Jersey's 2005 ambulance equipment list includes "Federally Approved Child Restraint System" as a "critical" element.**

[http://www.njsfac.org/forms/2005standards\\_checklist.pdf](http://www.njsfac.org/forms/2005standards_checklist.pdf)

**Tennessee rules require ambulance to have an infant restraint seat (Rule 1200-12-1-.02, 4-h-6- iii) (page 5).**

<http://www.state.tn.us/sos/rules/1200/1200-12/1200-12-01.pdf>

**Massachusetts EMS peds transport guide.**

<http://www.mass.gov/dph/fch/emsc/emereimt.htm>

**The Province of Ontario's EMS regulations require an "infant restraint device" on all ambulances (page 63). However they state that "Ferno Pedi-Mate currently is the only device which meets this standard."**

<http://www.health.gov.on.ca/english/providers/pub/ambul/equipment/standard.pdf>

**Idaho EMS pediatric transport guide.**

[http://www.healthandwelfare.idaho.gov/\\_Rainbow/Documents/medical/Ped\\_transport.pdf](http://www.healthandwelfare.idaho.gov/_Rainbow/Documents/medical/Ped_transport.pdf)

**The EMSC poster**

<http://www.miemss.org/EMSCwww/PDFs/EMSCDosDonts.pdf>